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ILLUSTRATIONS.

Sketches in Illustration of Paper on "Buildings and Landscape," by Mr. H. H. Statham: Social Science Congress (Two Double-page Lithographs

Staircase of the Paris Chamber of Commerce.—Monsieur A. N. Bailly, Architect 1133

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Art at the Social Science Congress.

THE Manchester Congress has come to an end. The Social Science Association has not been very well supported by the townspeople, and the Congress will scarcely be deemed successful in a financial point of view. Some valuable papers, however, have been read and discussed. As usual, we confine ourselves to notices of the most interesting of the matters brought forward in the departments of Health and Art, under their own headings.

The proceedings of the Art Section during the Congress can hardly be said to have led to any very definite results, though there have been some interesting discussions elicited. Mr. Watts's paper on the question of the subjects to be chosen for the decoration of public buildings was not, unfortunately, read by himself, and his absence and that of the president of the section were not calculated to give much impetus to the opening of the proceedings, though there was a fairly good attendance. Mr. Watts's paper seemed to us to fail in definite purpose, though containing much that was interesting; the particular object of the paper, the suggestion as to what class of subjects should be taken, was hardly really entered upon, and the two subjects which were in the course of the paper suggested were two of such opposite conditions as rather to confuse the hearer's ideas in regard to Mr. Watts's real intention. He named the "*Te Deum*," and a very fine subject it is for church decoration, but hardly for any other class of building (taking religious feeling for what it is at present); and he also named such subjects as the loss of the *Birkenhead*, and the manning of a life-boat, and these also are admirable subjects for a painter, but it must be manifest that they require a perfectly different style of treatment from the "*Te Deum*," which latter would lend itself admirably to such a broad and conventional treatment as the best *media* for mural painting demand, while such subjects as the *Birkenhead* could only be treated realistically,—they would look absurd in any other treatment; and as Mr. Watts had specially dwelt on the necessity of a conventional style for mural painting, it seems odd that its unsuitability to this class of modern subject should have been overlooked. Mr. T. C. Horsfall's paper the same day, considering how working-men may be induced to purchase such high-class works of art, or reproductions of them, as might be had at a reasonable rate, was a paper conceived in an admirably sensible and practical spirit, or at least, if any one might have thought its suggestions not quite practicable, it would only be because it is so difficult to find people ready to take up such movements in so simple, true, and unpretending a spirit as that which animated the reader of this paper.

Mr. Horsfall's idea was that the working classes were not only very much in want of some guidance in their choice of drawings to ornament their walls (a matter on which they were really not indifferent), but that they also wanted some definite information as to the price for which really good art in the shape of engravings and photographs could often be had; that a working man would hardly venture into a shop in which he would expect to find himself offered only things which were entirely beyond his means, and perhaps given the cold shoulder when he asked for works at a cheaper rate. It was suggested, accordingly, that a society should be formed which should engage the co-operation of some respectable print-seller, who should offer such engravings and other works as could be offered, frames included, at a price within the means of those for whose benefit the scheme was intended; that the subjects should be such as had passed the *imprimatur* of the society as representing art of a really good class, and that all the prices should be legibly marked on them. There might, we think, be a little difficulty in persuading people to accept the *imprimatur* of a committee of taste, which this really would be; for there is a great objection generally among any class of society to be drilled in their taste, though it might sometimes be very good for others besides working-men; but there is really something suggestive in the idea, and it is probable that there would be a much more frequent purchase of good specimens of art by the working classes if they knew exactly where to go for them, and for what price they could obtain them. Mr. Horsfall, at any rate, deserves thanks for the trouble he took in drawing up such a scheme; and we may add a word in passing in recognition of the admirable work which this gentleman is doing in Manchester in endeavouring to promote a taste for art among the poorer classes of the town, and to bring it within their reach in various ways.

Mr. Murgatroyd's paper on the possibility of advantageous interference by Government in securing the improvement of street architecture was a most moderate and well-considered one, containing nothing unpractical or impracticable; his ideas, in fact, hardly went further than a wish for the establishment of a thoroughly good Building Act in Manchester, and of a decisive power on the part of the Corporation of putting a veto on any building which was really such as to be an eyesore in the streets of the town. As to the desirability of such a negative power of control, most of the meeting were agreed, though Mr. Chatfeild Clarke instanced a case in his own experience which served to show that there might be difficulty and embarrassment for the advising architect of a corporation in carrying out even so restricted a system of interference as that. However, Mr. Clarke's case was, we must think, an exceptional one, and we certainly retain our own opinion in favour of negative control over street architecture at all events. The paper read by Mr. Statham in the afternoon of the same day we give, with a reproduction of the lithographed illustrations which were handed to the audience.

Saturday morning's debate on the possible moral improvement of the drama drew a much larger audience than any of the previous ones, and it is significant to note the fact that the only large audiences in this section were drawn by this subject and Mr. Hallé's paper on the musical progress of the last thirty years, though these were the two subjects which came least decidedly under the denomination of "Art" as usually understood, and which were least definite in their aim. The fact is, we suppose, that these subjects "come home to men's business and bosoms" in this country more; and it certainly seems to confirm the opinion which was expressed by Mr. Darbyshire at one of the meetings, that this is essentially not an artistic country, when we find so little interest excited by the discussion of subjects, such as street architecture and the State aid of Government to Art, which are of such real and practical importance, and open the way for so much decided action if it were once settled what course such action should take. The paper on the latter subject, by Mr. Comyns Carr, was a very well-considered and thoughtful essay, to some of the points in which we may, perhaps, be able to return. Sir Coutts Lindsay's very admirable address we need only here call attention to as well worth reading, and certainly comparing advantageously with any other address which has been delivered in connexion with the Art Department of the Association.

ON THE RELATION OF FINE ART TO SOCIAL SCIENCE.*

IT is unnecessary on the present occasion to urge any plea for the development of that region of the human intellect which is comprised under the term Art. There was a time in Great Britain, and that not long past, when it would have been the duty of your president to put forth his best endeavours to such a purpose: the cultivation of art was narrow, partial, and one-sided; a great segment of the circle left arid, and the part that Providence has allotted to art in the progress of mankind miserably ignored. In this respect the mind of the nation has undergone a great change, and I need only point to the fact that we are here to-day, and to the proceedings of the meetings of this society during the last half-dozen years, as a convincing proof of the altered judgment of the country.

* By Sir Coutts Lindsay, bart., as president of the Fine Art Section, Manchester Congress.

In enumerating the chief areas that form the region of art, and which may justly come under our consideration to-day, it is not that I suppose any single mind can deal with them in detail, but that it is well to keep before us the vast extent of the realm over which art holds rule.

First and foremost stands Poetry, with all her works of fiction; she is probably the oldest, as well as the noblest, of the sisterhood. Then Music. These two address themselves most clearly to humanity, inasmuch as they require no machinery, saving what Nature gives, to make their influence felt. After this the triune arts of Architecture, Sculpture, and Painting, which, although they appeal to us through the eye, cannot exist excepting by a process of construction wherein mechanical knowledge becomes a necessity. Under these great heads all minor arts must rank, in number so great that they are found interwoven with most of the civilising labour under the sun. It is in these concrete developments that humanity derives an infinite refinement, producing and reproducing by combination; for instance, as is found on the Stage, where each of the arts takes a due share, and where the whole circle may be fairly enlisted to produce one work.

I have said that it is impossible for me to deal with a region so vast in any proportion to its magnitude; time is wanting, and the necessary extent of knowledge. But I will, by your permission, touch upon each separate art as it appears desirable, and dwell most closely on matters belonging directly to my own profession. I entertain a lively satisfaction in the knowledge that my endeavour is destined to have a better fulfilment where the gaps in my line of thought are likely to be most visible through the support of Mr. Hallé and Mr. Watts. They will trace the progress of music, and of mural decoration in this country, but their lectures will probably have one defect,—a defect their audience should make good; they are not likely to do justice to the guiding influence each has had on his own profession, and without the consideration of which a review of music and painting in the present generation must be very incomplete.

It cannot be too constantly remembered by those who seek to understand or direct the art of their day that art, no less than science, grows by a natural law of development out of the stem of the past, but with this difference: the tree of science never dies back; its shoots are more permanent than the oak; it may cease to spread, but it cannot dwindle. Art, on the contrary, flourishes or dies down with the race that creates it; it can never cease out of the world, for it lives in the soul of man, but it does not augment, like science, which is not so much a product of humanity as a growing perception of nature. Art is the vital production of man; science, man's perception of God's creation. Let us also remember that art is a reflex of the times and the race to which it belongs, and that no art can flourish out of harmony with its own age; that all arts react on each other, while they take a common complexion from their times; and that, consequently, to understand one it is necessary to possess an intelligent perception of all; also that it is as impossible to resuscitate a past development of art as to revive the dead by injecting living blood into their veins. If these principles be true (and they are championed by reason and experience), they point to certain courses in the pursuit of art likely to lead to the happiest results, and to others again in which genius, perseverance, and faith may labour in vain, or with such results as are rather a misfortune than an advantage to the individual and the community.

It is not difficult to mark this truth by offering you two illustrious examples from among my own friends, both of whom are now dead. Be it understood, however, that the failure I shall first speak of came not from the want of personal distinction; he whom I shall cite, on the contrary, stood high on the hill of fame, but his works never took root, and seem to have died out of the thoughts of men even whilst his kindly face still lives fresh in the memory of his friends. Thus it was with John Gibson, who was a master among the sculptors of his day. I knew him well, and loved him very well; he was a man of great genius and infinite diligence; he attempted to resuscitate Greek sculpture, and surrendered his living thoughts to the tyranny of the past. He thought, worked, and produced as such a one might have done who took his morning's inspiration in the temple of the Parthenon, when the old gods were still believed to fire the thoughts of men. Such was his bent, and can you be surprised if he failed? We drink of the age we live in, even with our mother's milk, and can no more think or produce as a Greek than we can crack a joke with Aristophanes or kiss the hand of Cleopatra.

And now I see in my mind's eye the faces of certain of my friends. They shake their heads. They say, "What, are you a renegade to the teaching of the greatest art the world has known?" God forbid. I would study on my knees before it, could that do reverence to the dead, but I will not surrender them my being. Let me rather wrest from them what they have to yield, and acquire the perfect expression of their art, its sublime beauty, its dignity, and human truth. I would mould these into a new end, and leave their old purposes fulfilled as they were, to mark the epoch of their own day. In such a temper should we approach all art that has left its record on the past. Let it instruct us, but never dominate. The living are the heirs of the dead: let them give to us, not we to them.

The other illustration I am pleased to name, both because he was my friend, and also that his name underwent some eclipse before his death, through certain defects in his character as a man of affairs. He suffered in health, and ultimately fell into the decline which brought him to a premature death; yet, if I mistake not, the art of our times will always be associated with the name of Stevens. No man was more deeply imbued than he with the teaching of the greatest art that Christianity has created. He learned and was profoundly versed in the art of Michelangelo and Raffaelle, but he did not lose his identity in the study of these masters. He knew how to make what he learned subservient to his own spirit and to the spirit of his time. Although he has left but few examples of his work, his genius will long influence our English school, and his greatest work, the monument he wrought to the memory of the Duke of Wellington in St. Paul's, will certainly form an epoch in the sculpture of our country. These two men were each endowed by nature with genius, energy, and a great love of their calling. One strayed backwards on a path that leads to no bourne, and was lost among the shades of antiquity; the other, gifted with a finer sense of truth, marched with his age, and has achieved a place among the worthies of his race.

I have detained you some minutes whilst illustrating a principle I have ventured to set forth, because the question whether to study past art or to ignore it is now constantly mooted. A large section of modern artists look down upon the works of the past as idols that should have no influence in the living world, whilst others bow down and worship blindly. Fie upon both extremes! What! shall we ignore the accumulated knowledge of bygone humanity, and match our scraps against the stores of ages? Or, again, shall we lay our ear close to the graves and wait for our inspiration from dead men? For our honour's sake, let us do neither. Are we not the heirs of past knowledge? If so, we are bound to use it to a fresh issue. Study from the past no less than from the present, from art no less than from nature; but be your inspiration of the present, and your work for the future.

You will observe that in this survey I have enrolled Poetry at the head of all art. I think no review can be otherwise complete or harmonious with the truth, and most especially, no review of the art of our race. The creative mind exercises itself in various directions, yet always in the same spirit; the poet works under like conditions with other artists, develops kindred faculties, suffers from similar defects, appeals to the same public, and is honoured with the same renown. To sever Poetry from her sister arts is to deprive her of her supremacy, and cripple the whole college.

It has been urged against the English race that it is deficient in artistic power, and that, having produced no great schools of art during the flower of its youth, or the strength of its early manhood (when art takes the van), no development is likely to appear when the season of productiveness has gone by. I must confess that these considerations have often seemed to me very discouraging; but, after reviewing the matter in a broader light, I perceived that they gave but a false aspect of our mental progress. The truth is, that the active principle of art in England was diverted by circumstances from music, architecture, sculpture, and painting, and held aloof from them by the force of historical events over which it had no control. It found its expression in poetry alone. The rich abundance of great works that have arisen in this art is unequalled by any other race or tongue. Let this suffice to account for any deficiency in the other arts, and for which deficiency we suffer no diminution of honour. Power there is, and of the highest order, to which our English poetry can bear testimony; and since the mind of England is now set in the path of the other arts, there is no achievement, however lofty, that she is not capable of accomplishing if she labour with all her might.

I propose to make a rapid survey of the arts of this country during the present generation. I take the mean of life rather than any measure of time; for each generation fulfils itself during its own life, and offers a fresh departure to the generation which follows,—a departure accepted or neglected in proportion to the mental energy of the race. The chiefs in art of our day are still alive and accomplishing their tasks. They have gathered round them each his own following, and these have spread their influence through the land. As the stream fertilises its current grows languid; whilst a new generation and a new impulse must arise. If I mistake not, it already hurries us onwards to fresh destinies.

The poetry of the present generation has a marked character of its own, one widely different to that of its immediate predecessor. The works of our fathers reflected the mental and physical struggles of a revolution; its unflinching and defiant tone was due to the energy of the principles which were in conflict; they fought, with sword and pen alike, for the mastery of the world. Scott and Southey, Shelley and Byron, were all of them fierce and uncompromising partisans; there is a ring of steel in whatsoever they wrote, and it sounds like the challenge of trumpets from hostile camps; even the contemplative mind of Wordsworth was not always uninfluenced by the clang of events that were rushing onwards. At the close of that great strife came a period of profound repose, and from the midst of such grateful rest the present generation took its poetic inspiration.

Of all the living poets, Tennyson is the best exponent of our times, as he is the Laureate, not only by appointment, but through the sympathy of his fellows. I scarcely think that there is on record the life of any poet so completely in harmony with his generation, for which reason he has enjoyed a more universal popularity than has fallen to the lot of others. Those who are my contemporaries will remember the immediate recognition he obtained. Sentiment, and not action, was the keynote of his song; there was no sound of battle in the quiet air when he first charmed the ears of men. With the repose of these latter times came renewed thought, a fresh stir throughout its elements; a whisper of uncertain things arose in the mental atmosphere, but with no definite bent, and that phase has its exponent in Browning, whose complex verse and recondite thoughts are unlike anything else that has been attempted in poetry.

I name these two poets, because they seem to embody the spirit of their generation. Here I would remind the audience that I am speaking of my generation, and that I address those who have attained with me to middle life. We must not forget that a younger army is now in the field, along with us, who will by and by take the van as the old battalions fall out. Swinburne and Rossetti are of this younger generation, and their works undoubtedly claim sympathy with a section of the educated public,—works that are coloured to the newest complexion of thought. There is one other of the younger poets I will name, because I believe him to possess a higher originality; I allude to Morris. His early works are tinged by the influence of others, but in his latter poems he has cast himself free from sentiment, and writes in a fresh and manly spirit that will mark, I trust, the temper of the rising generation.

In what I have said I must guard against your supposing that I have allotted praise or blame to any one. I am merely endeavouring to point out those who have influenced our poetry, as I hope also to do, as far as I am able, with regard to other arts. There are certain poets of whom I myself entertain the highest opinion, whom I have not even mentioned, because their generation has not accepted their works. Amongst these I would consider Taylor as the chief,—his poem of "Philip van Arteveld"

is, to my thinking, of the highest order, and will, I believe, receive a more complete recognition hereafter.

I fear it must be admitted that England has but a poor school of music. The early promise that she gave was not fulfilled, and it withered unaccountably in the last century. How Handel, who was almost an Englishman, and who produced his finest works for us, should have left no pupils that might be called a school, is to me a source of astonishment; for, whilst our race has originated but little music, it is amongst the most appreciative in Europe. No doubt it would not be difficult to make out a roll of English musicians, and dub it by the title of school; also a long list of oratorios and operas, some of which you may have heard others speak of, or listened to on occasion, but few of them can be counted among the masterpieces of music, nor are they fit to represent the nation. There is a living exception to this general deficiency in Arthur Sullivan, the composer of the "Light of the World." This work has gained for his genius a European reputation, and I fervently hope he will write others as fine, and become the founder of a great school of music.

The Prince of Wales and the Duke of Edinburgh have bent their energy to the construction of a school at South Kensington, and this outcome of their efforts has enabled Sullivan to begin his teaching. His success in the operetta called "Pinafore" has been prodigious. I think it much to be deplored, however, if it seduces him from the nobler type of music that made his reputation. In the sister arts we may view with equanimity one or other artist fall to a lower level; but in music masters are scarce, and such a loss is irreparable. I fear that as long as the public desire trivial works, so long will composers produce them. They are the servants of the public, and a quick appreciation tempts them to labour for the popular taste. A certain number of musicians, however, imbued with the finer teaching of the German school, have done much to educate our generation. Mr. Hallé was among the first to urge on this task, which he still continues with an energy and capacity beyond praise. Under his guidance classical music has chased all other from your city, and in London the Monday Popular Concerts are crowded with enthusiastic admirers of the same school.

But I trench on the ground which my friend Mr. Hallé will himself occupy later on in our proceedings. His paper promises to be of the greatest interest to all who have the future of music at heart, and they are in a large majority in this city.

In turning to architecture, you will at once perceive that it has been overwhelmed with the work of our generation. Churches in thousands have been constructed over the breadth of the land; our old cities are crowded with new public buildings; vast sums have been expended in the restoration of our cathedrals; whole districts have been laid under bricks and mortar. Throughout the country, railway stations are scattered like peas over a floor; parish churches have been rebuilt, gentlemen's houses enlarged, and this has proceeded for many years with the breathless prosperity of the nation. The work that has been done is prodigious, and very varied in quality; art is sometimes forgotten in the hurry of construction, but much fine work has been produced for all that. Architecture in its historical aspect is the best understood of the fine arts in this country, and its English professors are some of the most learned in Europe. Were a foreign architect, however, to visit any large centre of life in England, he must inevitably be struck with the very curious epitome of our architecture he would pass on his way from the station to the hotel. The station itself is a combination of iron, stone, and glass, without any architectural proportion,—a mere construction to keep out wind and weather. Beyond its gates he enters on the outskirts of the town, swarming with life. He sees a long vista of small hutches, more fitted for rabbits than for men, each hutch a square of dingy bricks, pierced with five or seven holes which serve as door and windows; each has an excrescence at its back. He sees house after house, and street after street multiplied with the tedious similarity of a feverish dream. "Good God!" says he, "are these the dwellings of the intelligent British workman? How thus lodged can he acquire moral training or mental vivacity? English architecture takes no heed of the domestic life of the working-man; a million brick boxes are turned out to pattern, and seven million souls thrust in. Bravo! here is a manufacturing nation with a vengeance." His cab now plunges with a crowd of others into another quarter; the street widens, and bears evidence of some sympathy with human life; the houses are built, not turned out by the gross. This was the High-street in the time of the Georges; here are marks of wealth and comfort; mahogany shines resplendent from the interiors; the windows are not numerous (such houses were constructed to avoid the window-tax, that incubus on the architecture of its time). There is a precision about these buildings, the chimneys stand like sentries along the roof, there is absolutely no ornament, and little architecture of any kind. These ugly but comfortable dwellings stretch for some distance along the road, interspersed with more modern structures. By and by a new building of the best Elizabethan period comes in view, and our foreigner nods his head approvingly. He passes an Italian villa; on one side of the road rises a Swiss châlet of portentous size; on the other a mushroom of feudal architecture, with battlemented towers in grim miniature. 'Ah!' exclaims our friend, perplexed, and his eyebrows rise into his hat. An Indian pagoda, a Chinese joss-house, and two Gothic churches follow next; then half a dozen gin-palaces, Early English chapels, a music-hall smiling on a Greek pediment, and many shops, dwelling-houses, and villas hurry past his view in wild confusion. The cab turns into another street, massed with lofty buildings of such varied architecture and lavish decoration that our friend collapses in his cab. He sees dimly a vista of gigantic chimneys and huge buildings that appear all eyes; he grows faint, and is glad to reach the shelter of his hotel, to gather up his ideas. What a perplexed medley they must be! What a mass of labour and riches go to make up the gigantic hotch-potch he has beheld!

The intelligent foreigner, when he has a little recovered his spirits, seeks Mr. Smith, the architect of the town, who takes him to view the public buildings. Here his mind is again thrown into disorder. The cathedral is a treasury of Gothic architecture: its restoration has been conducted with excellent judgment and knowledge. Mr. Smith proves himself to be well versed in all the branches of his profession. "How can such a man be the architect of such a town?" murmurs our friend to himself. So saying, he comes to an open space, crowned by a town-hall of Palladian architecture that is admirable in proportion and detail. "This was designed by my colleague Mr. Jones," says Smith; "you may have passed his house on the way from the station,—a cottage in the Swiss style." Our poor friend gasps, clutches at the nearest lamp-post, and hurries back to his hotel. During his stay in England he beholds a multitude of new buildings in every style, from the Egyptian to the last new French composite, that have risen up without prejudice or preference of any kind, like mushrooms in a fertile soil. Writing to a friend at Paris, he expresses himself on the subject:—"Our *confrères* in England are too cosmopolitan in their tastes, and too unfettered in their choice of design, to have any architecture of their own; they are learned, however, in all others." This truth, therefore, appears, that the present has no architecture, but culls from past times with the most perfect indifference. England does not stand alone in this respect; the same tendency is more or less visible in the rest of Europe.

The architecture of our age has yet to be constituted, and this is the heart of the matter. Why do architects neglect to address themselves to so great a work? As we enumerate the chief architectures of the world we name them after certain races, Egyptian, Assyrian, Greek, Roman, Byzantine, Lombard, Gothic, and so forth. Each of these races fulfilled its own genius, but the works of all were conceived to meet peculiar necessities of construction, which were the conditions on which they built. Rock-building continued in use so long as the imperfect construction of architecture could not of itself support its own weight; the Early Egyptian architecture never lost its character. Assyrian art owed its aspect to unbaked brick faced with slabs of stone; whilst the Greek orders took shape from the varied strength of supporting columns made to sustain a superincumbent weight. A just proportion of strength was the gauge of harmony. The discovery of the arch, again, developed a new form of architecture which we may call Roman, for the Romans were the first to make the arch the chief feature in construction. The use of fired brick, the invention of the dome, the Gothic arch and half-arch in the form of buttress, all had their part in new developments, and varied the constructions of the world. There is little doubt but that in our own age a new epoch is upon us, brought about by the novel uses of iron and glass. It is to no purpose that the old art abhors the new materials; iron, steel, and glass will not be ignored, and must, finally, dominate, by reason of their superiority for constructive purposes.

For my part, I see nothing to regret, but enough to fire our architects with a noble resolution to wield worthily the greater powers that the age has given into their hands. The Greeks met a new epoch with fresh invention; are we less capable of great efforts? Is our courage less prompt than theirs? If not, let us be up and stirring, lest our children look back on us with contempt, and tell how their sires were too weak to grapple with the great destiny that Providence placed within their grasp, and abandoned their duties to their more sturdy progeny.

The problems that science has set the architects of to-day may be difficult and perplexing; though the means of solution are not far from reach. The principal questions appear to be the following:—

1. An adaptation of harmonious forms that shall bear just proportion to the strength and nature of new materials.

2. How and in what proportion old and new materials shall be combined.

3. How to decorate the new architecture with reasonable ornament.

Science will be our best ally in the solution of these questions; she accumulates fresh forces to our resource every day. We are still in the infancy of machine labour; it is as yet impossible to pass the influence of an individual mind into machine-work, but the time may come when the iron hand of the engine shall respond as delicately to the guidance of the human will as fingers of flesh and blood; and when science and art are thus knit together results cannot fail to follow of which the world as yet has no conception.*

A TREATISE ON CONCRETE.†

This is a new and considerably enlarged edition of a work by an engineer whose name is chiefly known in connexion with Portland cement, the best basis of concrete. The appearance of such a considerable book as this on a subject which can have no interest except for those practically concerned in it, is one of the indications of the increasing importance attached to concrete, and its probably still more extensive employment in building operations, if not in what may be more specially called "architecture."

Mr. Reid does not in all cases give due credit to those who have been pioneers in the study of the use of concrete, and the principle of its manufacture and application. He is rather taken up with the subject as now treated, and in regard to this he is a very efficient and thorough exponent. The difference between the concrete making of to-day and of earlier efforts lies mainly in the use of cement instead of limes, and the far greater importance now attached to the selection of the "aggregates" or particles for combination, and the more scientific precision aimed at in the method of combining them so as to ensure the closest and most enduring compact possible. Concrete is in fact now, more than ever, what it was defined to be by the editor of this journal many years ago, "rubble walling on a small scale"; for in the case of the best-constructed concrete the materials are now really selected in regard to their special fitness for bonding with each other and with the cement matrix, and though this bonding is a wholesale operation, it is a different thing from the old and primitive system of tipping the materials from a height of so many feet, and trusting them to do their own mixing under these circumstances. The description, however, which is given on the second page of the chapter headed "What is Concrete?" of the method of making concrete in some parts of Italy, is perhaps carrying this assimilation to miniature walling a little too far, and reads very

* To be continued.

† A Practical Treatise on Natural and Artificial Concrete, its Varieties and Constructive Adaptations. By Henry Reid, author of the "Science and Art of the Manufacture of Portland Cement." New edition. Spon & Co., London and New York. 1879.

curiously. "The aggregate is placed upon a board whereon is prepared a paste of lime, which is carefully handled so as to produce a thin film or coating of lime on the gravel or stone. The action required to accomplish this is similar in character to the process of coating confectionery. By this means of manipulation all the surfaces of the aggregate are, as it were, painted, but not too thickly, with a sufficiently adhesive covering to produce, when the pieces are brought in close enough contact, a compact concrete without any superfluity or deficiency of matrix." One would be curious to know how long the process took per cubic foot of walling, and how much per cent. of the surfaces thus "painted" really came in contact. The object in bringing forward the method seems to be to emphasise the idea as to the importance of full contact of the materials and of a right proportion between the aggregate and the matrix. Economy, of course, dictates the employment of the cement in the smallest proportion necessary for complete and permanent cohesion; and other practical considerations point in the same direction, for a superfluity of cement can hardly be any advantage, and may prove even a disadvantage to the combined strength of the concrete. Looking at it from this point of view, it is almost difficult to understand how the happy-go-lucky system often adopted of throwing the materials together could have produced a satisfactory result, when it actually left almost to chance that which is now known to require the most careful consideration and care. And now our present author discountenances handsetting altogether when the best work is required, and maintains the desirability of mechanical impact as the only means of gaining the most perfect accretion and the greatest strength available from the materials.

Mr. Reid classifies concrete work under seven different heads, which may be briefly recited as follow:—

1. Ordinary foundation concrete.
2. Concrete for streets and roadways.
3. Floor-concrete, generally in combination with iron girders.
4. Concrete for building.
5. Concrete in sewer and drainage works.
6. Concrete for paving purposes.
7. Concrete in the form of pipes.

The two last-named applications of the material include its subsequent treatment with solutions of silicates. Of the first application of the material the author truly observes that there is often an utter disregard of the principles which should regulate the selection of the materials, while the concrete used for streets is now very carefully prepared, partly owing to the necessity for having a thoroughly sound and solid base for the asphalte pavement which has come into use lately. We may add that, of course, the foundation of a street is almost always necessarily under the superintendence of a competent engineer or surveyor; whereas what is called concrete in house foundations is frequently put in by irresponsible builders with whom any sort of pudding of stones and cement, pitched in anyhow, passes for concrete. The author's description (p. 38) of the kind of concrete-laying which he saw in process not long since in the centre of the city of London, as the foundation for carrying the weight of a large building, is amusing enough, and, we have no doubt, a perfectly accurate description, not only of this case, but of many others. In regard to the third application, for floors, we are glad to see that Mr. Reid gives a word of caution in reference to the very liberal ideas which some architects seem to have formed as to the capability of concrete to uphold itself, over floors of considerable area, purely by its own tenacity. There is no doubt that it has in some fortunate cases been found to do so; but to trust to a material of that nature for resisting the tensile strain to which the under-side of such a flooring is subjected is a very risky thing, and it is creditable to some of our largest Portland cement makers that they have consistently deprecated the idea of their material being fit for such a purpose, and have warned their customers that unsupported concrete used in this way cannot safely be trusted to. Mr. Reid gives up to 10 ft. or 12 ft. as a safe limit for monolithic floors, but even then thinks that they require considerable precaution. It would have been well if a word had been said as to the importance, when iron is employed as the stiffener to the concrete, of having it entirely imbedded, so as to suffer as little as possible from variations of temperature and consequent expansion and contraction; and we are somewhat surprised to find neither here, nor in the subsequent chapter on constructive applications of concrete, any mention of Mr. Thaddeus Hyatt's admirably simple, effective, and scientific method of combining iron with concrete. We call it specially scientific, because it places the iron exactly where its strength is wanted to supplement the concrete, and does not waste the smallest section of it where the concrete is sufficiently strong without it. In regard to the building of concrete houses, we may note that the author expresses considerable distrust of houses erected by casting the material in frames, and, at all events, considers that they are frequently built with very insufficient care either as to the quality of the concrete or the accurate adjustment of the frames. He recommends, until Portland cement and its product in the form of concrete have been more perfectly studied, that it would be wiser and safer to build concrete houses on the block system, "ensuring thereby the quality of the materials before any serious structural outlay has been incurred." By the "block system," of course, is meant building with blocks of concrete. Upon this we must merely observe, that though such a system makes (when the concrete is good) an admirably stable and durable work, it removes what at present is the main inducement to the employment of concrete for house-building, economy, and is, moreover, an abandonment of the chief characteristic of concrete. It cannot be pretended that concrete blocks, made first and then bonded like large masonry, can well be less costly than average stonework, unless in exceptional circumstances; it certainly must be more costly than average brickwork; and though Mr. Reid thinks that the frame system of concrete building is not really cheaper than brick (in which in many localities experience contradicts him), he admits that it has important claims as "providing against some of the difficulties surrounding the vexed question of skilled labour and its erratic and suicidal tendencies"; and this difficulty is, of course, not touched by the block system.

Before quitting this chapter on "Matrices" or bases for concrete (in which, of course, Portland cement occupies the chief share of attention), we cannot but express the same regret which we had to express in noticing the author's previous book on Portland cement,—the want of logical arrangement and method, and the apparent confusion of expression in regard to the experiments noted and the deductions to be drawn from them. It is really impossible sometimes to make out what the writer is driving at. On p. 62 we are told that the presence of carbonic acid in Portland cement has an injurious tendency (as, of course, it has), and "the following experiments were made with the view of ascertaining its extent and character": the experiments consisting in laying out certain qualities of Portland cement on a floor for considerable periods, and then giving the amount of carbonic acid which on analysis was found to have been taken up from the atmosphere. This is not an experiment showing the "extent and character" of the "injurious tendency" of carbonic acid, for there is no test given of strength at the end of the periods of exposure; all we learn from it is that *if* carbonic acid is injurious, Portland cement should not be exposed so as to absorb it before use. And in the remarks a few pages further on, in regard to the importance of the quality of fineness, the first two experiments (page 67) are tabulated so as to appear to be contradictory, until we discover that they have been expressed the inverse way to one another; and, after that, we are still in confusion as to the author's real drift, as, after he has just been speaking of the superior value of fine cement (on which he again enlarges further on), we find in his two first experiments the higher breaking tests recorded against the *coarser* qualities. The fact that the copy sent to us had a number of pages transposed in binding increased, no doubt, the apparent confusion; but even after with some difficulty eliminating this source of error, we still found a want of clearness and method which would render it exceedingly difficult for the reader to find out what conclusions the author really meant to convey: and this want of perspicacity and logical arrangement is a serious defect in a book dealing with an intricate practical subject involving a great many statistics.

The chapter on "aggregates," and the following one on machines for reducing them, are of considerable interest, and the latter is fully illustrated. The author divides such machines into four groups,—crushers, squeezers, impactors, and abradors or triturators. The first class is now nearly out of date; the second is best known by Blake's Crusher, not illustrated (we presume, as too well known); some of those which are illustrated are of considerable interest. It is rather alarming at first to read, under the third head of impactors, that "'Patterson's Elephant Stamper' is at the present time creating some sensation in the mining districts of this country"; but the machine so named is really a beautiful contrivance, its main point being the conservation of power and the avoidance at the same time of jar to the machine by the storing-up of all superfluous force, any excess of which, when inadvertently applied, is conserved in the springs to which the hammer-heads are attached, and the force used is always proportionate to the work to be done at the moment. Among the triturating-machines "Motte's Universal Crusher" is to be noted, a mechanical appliance of the pestle-and-mortar principle in a very simple and effective manner. In speaking of aggregates, the author calls attention to the importance of removing dust, of cleaning or washing the aggregates just before use,—a very important point which is seldom attended to except under the pressure of competent and careful supervision, and which is, of course, a refinement of modern practice not dreamed of in the old days of concrete-making.

We must pass over the remarks on English concrete industries, merely drawing attention to what is said in recommendation of the patent "Victoria stone," an agglomerate, as most of our readers are probably aware, of comparatively fine granite particles in a matrix of Portland cement; the section of a briquette of the stone (plate 2) is certainly a much more satisfactory object to the eye of an architect than are the illustrations in the same chapter of the dreadful ornamental (?) objects manufactured in this material, and which would go far to make us wish that its production were an impossibility. Still better, or worse, are some remarks in the introductory chapter in regard to the architectural or artistic value of such artificial materials as Ransome's stone. It may not be able to compete in price, we are told, with average natural building stones, "but it affords great facilities for the preparation of ornamental blocks at a cost much less than handwork, and with great and unerring accuracy." There is something almost pathetic in the innocent and unconscious manner in which an engineer will cite as an advantage that which all artists are painfully aware has killed modern decorative art, the power of and the rage (we cannot call it "taste") for cheap mechanical multiplication, whereby all life and interest are removed from decorative design, and it is reduced from an art to a trade. But we do not expect Mr. Reid to enter upon this question. He is, however, rather bent on referring to architecture also, for he has taken up strongly the "Lascelles system of construction," and given, with every expression of satisfaction, a view of the Queen Anne house erected by Mr. Lascelles at the Paris Exhibition last year, with its sham brick jointing, and its pilasters standing on corbels,—a piece of architectural absurdity to which it is utterly astonishing to us that Mr. Norman Shaw, who has shown himself so often a fine architectural artist, should have lent himself. Mr. Reid is not only quite delighted with this application of concrete, but he is prepared to lecture every one who does not share his admiration. He tells us that "the artistic architect, who pins his faith in true old-fashioned style to existing usage," will say, "There are no bricks used in such a building as that produced under the Lascelles system of construction, and how can you build a house without bricks?" We beg leave to say that the artistic architect is not quite such a fool as that, and that he knows a good deal more of the matter than Mr. Reid can tell him. The fact is (as we pointed out when noticing Mr. Lascelles's book some time ago) that the system of pinning one's faith to existing usage is exactly the very fault which Mr. Lascelles and his architectural co-adjutor have themselves committed, by treating their new material in imitation of bricks and tiles, publishing designs for sham old rustic cottages in a style which arose out of perfectly different materials of construction, and even reviving, apparently just because it *was* old, an old

form of cottage plan long condemned by some of the best judges of the sanitary conditions of plan. The treatment of concrete architecturally, as a building material, is a matter of great interest, but the true architectural expression of the material will never be arrived at by imitating brick and tile work, and Mr. Reid should learn a little more about what constitutes architectural design and architectural style before delivering himself with so much confidence on the subject.

The cement-concrete tiles of Messrs. Patteson, which the author also notices, form a very good application of concrete in an ornamental form, much better in design, certainly, than most of the vases and pedestals and other painful things previously illustrated. The rest of the chapter on constructive concrete applications is occupied with the practical forms of concrete building construction, mainly, however, with two forms only, Hornblower's patent fireproof floors, and Lish's patent Z-blocks. The former, as our readers are aware, is a system of concrete flooring, combined with hollow terra cotta or fireclay, with an iron girder or beam at intervals within a fireclay tube, so as to be protected from the action of the fire. The floor is a very solid and complete one, but expensive, and it may certainly be questioned whether the rather complicated construction involved is it realises any qualities either of strength or of fire-resistance beyond what are secured by Mr. Hyatt's simpler process, although for buildings in which cost is not a main consideration it is perhaps the most complete and finished form of fireproof flooring. The latter depends, it is true, on the concrete being of the best quality, but under this condition its tests for fire-resistance have shown extraordinary results. Lish's Z-block system is a means of building hollow concrete walls with a bond at regular intervals, the building materials being concrete blocks not in a Z-shape, but approaching that, so that each block forms part of the face on either side of the wall and a connecting band across, the wall being thus divided into hollow compartments. This seems a method of building having much sanitary merit and simplicity, though it can hardly have the advantage over more ordinary building methods in point of economy. There are other methods of using concrete as a building material which might, as it seems to us, have had equal claim to notice in Mr. Reid's treatise. We recommend the book to those interested in concrete, as an important contribution to the subject, containing much valuable and, as we believe, reliable information, though a book somewhat spoiled by the want of literary method which we have commented upon.

LONDON IN RED.

Man is an imitative animal; no doubt of it. There are more echoes than voices in the world; no doubt of that either. When one low-spirited piece of humanity threw himself into eternity off the Monument, another followed suit from the Duke of York's Column in less than a week; and we might go on illustrating the fact in the same striking way to the extent of one of our own Classic columns. The last indication, however, of this imitative faculty, which is a colourable one, shall suffice. The glowing aspect of the comfortable red brick houses, with plenty of sash-bars and ornamental sags in chopped brick, which have sprung up in and about and all round the metropolis, so fired the imagination of the owner of a drab cement-covered front that orders were given, and in less than no time the desert blossomed like the rose, and from head to foot, from roof to pavement, the whole surface was made red. So far as we know, it was Lady Herbert of Lea, in Belgrave-square, who was the first to commence this brightening process, and for a time society staggered and stared. Quickly recovering itself, however, it proceeded to imitate, and now in all directions the artistic mind is showing itself in red on the front of the house, and making everything *couleur de rose*. In the immediate neighbourhood of this daring innovation a dozen disciples have donned the same coloured uniform, and Lord John Manners's pillar-posts standing hard by look like little drummer-boys of the same regiment. Here and there a subtler genius shows itself in two colours, and at one house the capitals of the Doric columns forming the porch actually exhibit contrasting tints. In another district brown takes the place of stone-colour to the extent of the ground-floor, and what the movement may actually lead to in the way of external polychromy it is hard to say. At the present moment, however, the colour first mentioned, and plenty of it, is the order of the day. "*Faites votre jeu, rouge gagne.*" The epidemic is spreading, fast as another scarlet fever is known to do, and ere it run its course there seems every reason to believe it will, like Macbeth's hand, with a difference,—

> "The multitudinous town incarnardine,
> Making the drab—one red."

WORKMEN IN PARIS.

At a time when an activity is remarkable in the building trade of Paris such as almost recalls the palmy days of the Second Empire and the reign of M. Haussmann, when the builders', in the midst of the general depression, is the only branch of trade in a satisfactory condition, sadly showing the inaccuracy of that oft-quoted Parisian proverb, "*Quand va le bâtiment, tout va*,"—at a time when such is the press of work that the Limousins, the bricklayers and masons who usually return home at this season, have yet before them many weeks' occupation, the professional world of the capital has been disturbed by a series of strikes which have suddenly commenced. Four trades have struck or threatened to strike within a few days,—the carpenters, the joiners, the dyers, and the *fumistes*, or flue-builders. Our English contractors and manufacturers may sympathise with their French brethren, for they know only too well the difficulties to which such incidents lead. The carpenters asked (for fortunately this strike is now arranged) for an augmentation of a franc a day. It may be easily seen that the contractors who had made their contracts according to the existing rate of wages saw themselves somewhat thrown out in their calculations, and asked their men to accept the augmentation when the works at present in course of progress were more sufficiently advanced, that is, after the 1st of January next, but the men refused, and the strike continued. To the credit of the masters, this disagreeable position was soon settled. The contractors met in their "syndical chamber" in the Rue Constantine, about a hundred strong; and, after a stormy debate of two hours' duration, determined, by vote, to accede to the claims of the men. The carpenters' strike is therefore terminated, if not to the entire satisfaction of all round, at least to the owners of property, who, paying as they do in most of the localities in which houses are being built excessive rents, are desirous to have a return on their outlay in the shortest possible time. Want of rapidity is not to be remarked in the Parisian builder (in spite of which "Jerry-building" is unknown) and five-storied stone houses which, but a few weeks ago, were only having their cellars laid, will probably be occupied by next spring. Indeed, the Aladdin-like manner in which a line of houses rises in Paris, where plaster and stucco are rarely if ever used, their place being taken by hand-sculptured and lavishly-used ornaments, is certainly miraculous.

In 1848 the carpenters received four francs a day, about 3s. 2d. In 1876 their wages were raised to five francs, 4s.; they struck, asking for an increase of a franc, but before the strike was terminated they advanced their claim to two francs daily. After three months' entire cessation of work, the contractors gave in. So that taking into account this, and the new increase, we see that the carpenters have succeeded in gaining an augmentation of three francs in less than three years.

The joiners' strike so far appears only to be in a state of embryo. They also demand an increase of a franc a day, and the suppression of sub-contracting, and over-time paid double. The work at this moment being, as we have already stated, particularly pressing, the contractors have been exacting from their men extra hours, and this they have refused to continue; so far they have not openly struck, but when the usual knocking-off hour comes they put away their tools and disappear without a word. Their demand for an increase of salary is based on the growing dearness of living and the expense of their tools, which obliges them to invest at least 10*l*.; further, these require constant reparation, and the men ask that instead of the six francs they at present get they may have seven francs (about 5s. 4d.); they further, as above stated, want the piecework given to a gang of workmen and not to one man, who often sub-contracts and executes bad and cheaper work. They further ask that their day's work may not be more than ten hours, and this for obvious reasons. According to the report of their delegate, it would appear that no fewer than 5,000 men are out of work in Paris alone. As we write these lines no arrangement has yet been made, and a manifesto has within a day or two been circulating among the joiners, by which they have agreed that if the contractors do not accept their conditions, they, the joiners, will suspend all work.

The strike of the *fumistes*, the flue-builders, offers some curious features; of all the trades which depend on the builder, theirs is that most favoured. Working by the day, that is, in summer from six to six and in winter from daylight to sunset, their wages are always the same, short day, long day, on an average 6 francs 25 centimes, 5s.; average, we say, as there are workmen who gain only 5 francs a day, 4s., and others who have 8 francs 50 centimes, nearly 7s.; as they work all the year round, their income is superior to that of many clerks, and night-work is paid 50 per cent. extra. The men now ask for 7 francs a day to all their members without distinction of their capacities. Notwithstanding that the contractors have shown them their own difficult position, the men have so far refused to listen to them.

At a time when, as we have already remarked, the building trade of Paris is more than usually active, the always important question of the necessity of arrangements for the prevention of loss of life by imperfect scaffolding, has been agitated. For some time past these accidents have been too frequent, and the leader-writer of our foreign contemporary, the *Petit Journal*, Thomas Grimm, not many days since reverted to this important question; want of precautions, quite as much as increased activity in the trade, is the cause of many of these deplorable accidents, and the press having urged the necessity of a strong network round the scaffolding, there seems now a possibility of the question receiving its due consideration. That in most cases the fault, as the contractors never fail to argue, rests with the unfortunate victim, is only too true; custom renders the workman careless, but, at the same time, this being the case, it is the duty of the foreman to suppress, as far as possible, the chances of accident. Here in Paris the scaffoldings such as are habitually used are, if strong and serviceable, excessively primitive; indeed, all the processes, even with the modern appliances of iron beams and almost entire abolition of wood connected with the erection of a house, are of this nature; as an instance, bricks and smaller stones are passed to a second floor by a series of workmen, who hand the bricks, two by two, one to another. The workman who lives on his daily wages is in a position deserving much sympathy; his wife and children must, even in case of accident which necessitates momentarily cessation of work, rely on a trifling indemnity, which is in the greater part of cases grudgingly bestowed by the employer; as the law decides no fixed sum, and the matter is left to the generosity of the employer, suffering and discontent are frequent. A remedy for such a position ought to be found. A recent accident, in which a young person in leaning too far out of a window fell into the street below (a rare accident, fortunately, here in Paris), reminds us of the custom, almost universally adopted here, of placing a bar of support across the window, at about the height of the middle of the body; we in England have not adopted this excellent innovation, by which the pleasure of looking out of the window is rendered, without the expense of a balcony, almost entirely free from danger. Far from destroying the appearance of the façade, this bar breaks the monotony of the series of square holes, which in the present day take the place of the elaborately designed and conceived window of the past.

We hear much now of the degeneracy of modern workmen, and the effects of mechanical production, and the fact is sadly enough undeniable that each branch of industry in the present day tends to become more and more specialised, and its operations sub-divided among a certain number of routine-drilled mechanics, the direct influence of the increased use of machinery. This, in a country like the United States, has led to such strange results that it is with difficulty one is able to find,—this instance

taken as one among many others,—a watch-maker who can repair a slightly-injured watch; it will be done probably only by some newly-arrived immigrant or some of the rapidly-dying-out old-fashioned tradesmen who belong to the day when everything was imported from "the old country." Waltham and Newark, and their machine-made watch factories, absorb the immigrants as they arrive, and each workman becomes, after a time, little better than a machine capable of turning out in the course of the day so many of the special portions that may be entrusted to his care. But to return to Europe, the old system of apprenticeship is dying out rapidly, and only exists in force, probably, in the country towns and villages. In days not so very long ago, a master workman would have in his shop one, two, or three apprentices, who were almost as his sons, who lived in the house, and, under the direction of their humble master, were transformed in due course of time into able workmen. Into this patriarchal and excellent order of progression, in which traditional secrets have been jealously handed down from the most distant ages, the modern requirements of trade have rudely broken. The small workshop is fast disappearing, and as for the factory workshop it forms a school in which far from the best education is given to the young. A revolution, and one not for the better, has been operated in the old system of apprenticeship by the practices of modern industry, and a remedy must be sought. The existence of the smaller workshops is necessary, since they insure to a large class that inestimable of all advantages—independence. Our apprentices' schools are not able to cope with the difficulty which presents itself in every civilised country. An article in a French contemporary spoke not long since of the *Société de Protection aux Apprentis*, the (Society for the Protection of Apprentices), and more particularly of a society affording "paternal assistance to the children employed in the industry of artificial flowers and feathers." This society is represented in each manufactory by a delegate whose duty it is to encourage the children in their intellectual and moral, as much as their professional, development. This delegate is not a spy, still less a competitor, desirous to surprise any secrets, the society choosing its delegate to one workshop from a different profession; without actually entering the workshop, he serves as a friend to the child, and a valuable auxiliary to the patron. The initiation given by the association to which we have referred,* deserves attention, as affording a means of remedy to an ill which may have not a little influence on the existing depreciation and suffering of commerce.

HEALTH QUESTIONS AS DISCUSSED AT THE MANCHESTER CONGRESS.

On Thursday, the 2nd inst., Mr. F. S. Powell presided, and Mr. Alfred Haviland delivered an address on the special question, "What are the evils resulting to health from the growth outside the boundaries of the municipalities of suburban districts without due regulation and control?" He said he was medical officer of health over a very large area. He believed altogether he had about as many villages and towns under his charge as there were days in the year, and 1,000 square miles to go over. Some two years ago this subject came forcibly before him, and he read a paper before the Society of Medical Officers of Health on the distribution of zymotic disease from epidemic centres. In that paper he proved that there were in large areas certain epidemic centres. From each centre there were certain circles around showing that the spread of the disease from the centre was in the inverse ratio of the distance, speaking generally. First of all he took Northampton as an epidemic centre, and then took all the sub-districts and circles around, and it was very remarkable as showing how the zymotic diseases lessened in fatality as the distance increased from that centre. He showed that in Northamptonshire there were comparatively large market-towns with bad sanitary regulations, where zymotic diseases were hardly ever absent. These facts had impressed upon him the necessity of there being but one law. There should be no distinction between urban and rural authorities. No improvement would be witnessed till it was made compulsory that the powers enjoyed by urban authorities were enjoyed also by rural authorities. Even in the matter of scavenging, so necessary in towns, there was the greatest difficulty in getting it carried out in rural districts, on account of people being afraid of the expense. When these districts were invaded by disease of an epidemic character, the people had no means of meeting it. The Association should take up this matter, and strongly impress upon the Government the necessity of making it compulsory that urban powers should be carried into rural districts. Rural authorities should have the same powers as were enjoyed by urban authorities, in order that they might secure proper drainage and a thorough supervision of houses. They wanted more inspectors; they wanted more intelligent men who would do their duty well without any reference to self-interest. It was impossible for one man to superintend a large and growing community of 50,000 inhabitants.

Dr. Hardwicke (coroner, Middlesex) said it was a mistake to think that living in the country was so much more advantageous in a sanitary point of view, as was thought by the working classes to a great extent, than living in towns. There was a danger in leaving a town which was under proper management, and going to a small place where sanitary conditions were far worse and the evils to which they were exposed were far greater than in large towns. What was wanted was to have the same law made applicable to rural parishes as was in force in towns with regard to building inspection and other matters.

Mr. Baldwin Latham, C.E., said this was a question that must be dealt with sooner or later. There could be no doubt as to the evils that existed in rural parishes. He could not conceive why a man living in the country should not have his house as healthy and habitable as a man living in a large town, and yet it was notorious that rural authorities had no control whatever over building operations. Builders might build upon any plans they liked, and use whatever materials they pleased, and there were no regulations as to drainage. The consequence was that the health of the inhabitants was injured, and the death-rate fluctuated to a great extent when they were visited with zymotic diseases. He held that, with reference to regulations for buildings and general sanitary control, they should be assimilated, and that what applied to urban districts should also apply to suburban districts.

Dr. Seaton (Nottingham) thought a great deal of mischief resulted from the present regulations not being strictly carried out. It was one thing to have powers and another to carry them out.

Mr. Fuller (chairman of the Withington Local Board of Health) said he had occupied the position of chairman of a rural sanitary authority having power over an area larger than the superficial area of Manchester, and which had lately been converted into an urban district. He thought the change had proved of very great advantage in the district. Within a circle of a very few miles round Manchester there were twenty separate local authorities. It was not at all likely that those authorities would act upon uniform principles. Their bye-laws would be different, as also would be the extent to which they would be carried out. He thought there should be uniformity of action in sanitary matters all over this area. The best thing that could happen would be the absorption of all the local boards in the immediate neighbourhood of Manchester by the Manchester corporation.

Professor Gairdner (Glasgow) said that for nine years he was medical officer of health for Glasgow, and he had abundant opportunities of observing the evils referred to by Mr. Haviland. He was not quite certain that if they endowed the rural authorities with the same powers as urban authorities they should meet the difficulty which existed. One of the great obstacles was the want of co-operation on the part of authorities. It was difficult to get co-operation on the part of authorities who stood related to these matters on account of their having antagonistic interests very often. Although Glasgow bore an evil reputation from a sanitary point of view, he believed he was right in saying that some of the greatest risks the city ran arose from badly-conducted suburbs. The mere extension of urban powers to suburban districts would hardly do what was desired. What was wanted was a scheme of inclusion, which would enable all the authorities that ought naturally to co-operate in dealing with epidemic disease to do so.

Captain Douglas Galton, F.R.S., said he quite agreed with Professor Gairdner as to the desirableness of inclusion, but the difficulty was as to how they were to adopt the limits of that inclusion. As was shown by the Bishop of Manchester on the previous evening, there was a tendency on the part of the people to leave the towns and go to live in the country, in order that they might get a purer air; but they too often fell into fresh difficulties, because there was no proper control over the building of the houses, and the sanitary matters were too often ignored. It was not at all clear that in order to secure health they need move out of towns and go into the country. In St. Ann's, Soho, London, the population was 331 to the acre, and the death-rate there was 24 per 1,000. At Eltham the population was one per acre, and the death-rate was 18 per 1,000. In certain model lodging-houses in London the population was 1,140 to the acre, and the death-rate was only from 16 to 18 per 1,000. So they would see that it was not at all necessary to have a country residence in order to enjoy good health. The fact was that if in building houses in towns they would adopt the plan of so arranging houses either one over another, or taking care that there should not be community of air through the buildings, but that there should be a free circulation of air all round the houses, and that there should be no refuse matter left in their vicinity,—if they attended to these matters they would have a higher standard of health in the town population, just as they would have in the country, and even better. Not that it was not better to live in the country if they could have all the attributes of health which the country afforded. The whole difficulty lay in the want of education on the part of the people. In the towns they had the advantage of having educated and duly qualified medical officers of health, and surveyors and inspectors of nuisances; in the country very often they had less-educated persons to look after the health of the districts. What was chiefly wanted was to raise the tone of education in sanitary matters throughout the country.

Mr. H. H. Collins (district surveyor for part of the City of London) said that until the people were more educated Acts of Parliament would do little good.

The Chairman said he must congratulate the section on the most interesting discussion they had had. He could not help contrasting the reluctance they found in England on the part of suburban districts to be incorporated with urban districts with the anxiety they found in America on the part of rural districts to be so incorporated. He believed the difference between urban laws and rural laws was much less than was commonly supposed. If they attempted to impose upon the whole of the country districts every section of every Act, or attempted to impose every section of every bye-law relating to urban districts upon rural districts, they would meet with great opposition in the House of Commons on the part of the members who represented suburban districts. If it was found that there was a possibility of passing through Parliament a Bill containing new powers for particular districts, it would lead increasingly to private Bill legislation, and if there was one thing to which he objected more than another, it was that miserable system of each town having its own private Act. He held that we ought to have in England one common set of laws with reference to buildings. Although the law be the same, the bye-laws need not be the same,—if they went to a purely agricultural district they need not have the same rigid bye-laws which must necessarily prevail in towns. On the other hand, there were bye-laws which ought to be more strict in rural districts than in the towns. In times of epidemic the hospital in the town ought to be accessible to people who lived in the suburban districts. Power ought to be given to the authorities,—to suburban authorities,—to send infected patients to the great central hospital. The great difficulty they had to deal with in reference to local authorities was the narrowness of their area, and, consequently, the limited salaries which those authorities were able to give to their officers. He wished to have put in force far more extensively than at present the powers given by various statutes, to have officers in common. There was no reason why different districts should not have a common medical officer of health or a common surveyor. By this

* The offices of this Société d'Assistance paternelle are in the Rue de Lancry, Paris; the president, M. R. Turney, 36, Boulevard de Sebastopol, Paris.

means they would secure two advantages,—they would secure higher ability and uniformity of practice over a considerable area.

Mr. Haviland moved,—"That this section recommends the council to memorialise the Government that, in order to lessen the evils resulting to health from the growth of suburban districts outside the boundaries of municipalities, powers be obtained to bring both the municipal area and the suburban district under the control of one sanitary authority."

Professor Gairdner (Glasgow) seconded the motion, and it was carried.

The Influence of Sewage Farms on Public Health.

Mr. Baldwin Latham, C.E., read a paper on "The influence of sewage farms on public health." He drew attention to the fact that a large number of sewage farms had been established throughout the country, and that an investigation into the condition of the health of those residing in the neighbourhood of those farms, or working or living on them, showed, beyond doubt, that sewage farms were not prejudicial to health. In the case of the Croydon Sewage Farm it was shown that the death-rate of the district in which the farm was located for the ten years previously to the sewage being taken on to the land averaged 17·06 per 1,000 per annum; the zymotic death-rate was 2·5 per 1,000, the fever death-rate was 0·95 per 1,000, and the diarrhœa death-rate was 0·74 per 1,000. For eighteen years subsequently to the sewage being taken on to the farm, the general mortality of the district was 15·09, the zymotic death-rate 2·75 per 1,000, the fever death-rate 0·32 per 1,000, and the diarrhœa death-rate 0·86 per 1,000. He urged that if the healthiness of sewage farms could only be fully realised, towns would not be mulcted in the heavy expenses which they now have to pay by reason of the opposition to the establishment of such works, and also for the alleged damage to adjacent land which had often to be paid when land was acquired under compulsory powers for sewage purposes.

Alderman Thompson said the Corporation of Manchester conceived that the best principle to adopt in dealing with sewage was an intermittent system of precipitation. If gentlemen could suggest a better or cheaper way they would be glad to adopt it.

After some discussion,

The Chairman, in summing up, said it was clearly proved that a sewage farm might be comparatively harmless to the health of the neighbourhood, but at the same time they must admit that there might be a certain amount of danger arise from the neglect or mismanagement of such a farm.

On Friday, Mr. F. S. Powell, as president of the section, delivered his address. In the course of it he said he held that in regard to the evils to be dealt with, any pollution of the air, such as can make a common nuisance, either in stink or in dust, or which causes coughing, should be called a nuisance injurious to health, and come under the Nuisance Act. Dr. Smith estimated the sulphur poured into the air in the course of twelve months by the consumption of coal in our manufactories, ironworks, steam-engines, and houses at no less than one million of tons. Fears were entertained "that the evil cannot be completely cured until some means are found for fixing the sulphurous vapour which the combustion of a certain amount of coal necessarily evolves." But the mischief might at least be mitigated, and it was indolence to neglect advantages which were at hand until science should have devised and mechanical genius carried out in practice a complete remedy. There were other indirect evils. There was the neglect of cleanliness where excessive toil alone rendered cleanliness practicable; there was the dull and degrading acquiescence in base physical surroundings; there was the incentive to drunkenness from the depressing influences of the atmosphere; and, to refer in one word to the mercantile aspect of this question, there was the impossibility of raising our people to due artistic sensibility when their lives were passed in the midst of monotonous gloom. Let any man travel from one of our smoke-ridden manufacturing towns and stand on the heights which command the city of Lyons, and let him feel surprise, if he could, that the English workman was surpassed by the French in the delicacy of his tints, the harmony of his colours, or the grace of his designs. Among the reforms was the registration of sickness, which tended to keep the public and the central sanitary authority constantly aware of the state of the public health in every part of the country. He rejoiced to find that the Sale of Food and Drugs Act of the present year had removed a great magisterial difficulty by fixing a standard of strength. People were now for the most part secure against the intermixture of noxious ingredients in their daily food. We must, however, pay regard to the fact that the circumstances of districts widely differed, and that regulations essential for security in London and Manchester would be vexatious interferences in lesser communities and in rural districts. Mr. Powell also approved of the Act passed last session at the instance of Mr. Marten, which conferred on the Local Government Board power to compel the formation of cemeteries as occasion arose, and without the severe limitations which had hitherto attended the closing of graveyards. To this new task the sanitary authority, urban or rural, would doubtless prove fully adequate, and the national scandal, accompanied with danger to public health, of overcrowded churchyards would by slow but sure degrees cease to exist. There was one question of wide-reaching importance which would be asked in future years, which must engage public attention and might influence the action of the Legislature. It was present to the minds of all intelligent parents, though probably not yet discussed in connexion with compulsory enactments of Parliament or subordinate authorities, namely, how far the existing severe pressure in many elementary schools and in the higher education produced, or would hereafter produce, mischievous effects on the well-being of the pupils. In America considerable apprehension had been entertained, especially with reference to the more sensitive and delicate organisation of girls. "School life in its influence on sight and figure" had already been investigated by a master-hand, —Dr. Liebreich. In conclusion, Mr. Powell urged that these subjects ought to be taken as one great whole, not as separate and sometimes conflicting problems. The construction of works for water supply in the case of urban districts should be on a large scale, either by combination between lesser communities or by contribution to them of water collected by towns of greater size. The water supply should be constant. Underground sources of supply should be diligently sought, and more freely made use of. As to sewage, no single system was suitable for every district, and in lending the public money the time of repayment of the loan should be so calculated as to give a wide margin, not only for the natural decay of the works, but for the advance of science, which might render them antiquated. In the metropolis, reform in the supply or distribution of water was accepted by Government and Parliament as a necessity and a duty. But agreement on this necessity had not been arrived at without conflict.

Business was resumed in the Health Department, and

The Sanitary Condition of the Houses of the Middle Classes

was discussed. The special question for consideration was,—"What are the best means of improving the sanitary condition of existing houses of the middle classes, and the best mode of building so as to combine sanitary and commercial value?" and a paper was read upon the subject by Mr. Joseph Corbett, sanitary engineer and architect (Manchester). He said the improvement of existing houses would include the remedy of acknowledged defects, such as leaky or ill-arranged sewers; also the addition of sanitary comforts, such as improved warming and ventilation. Municipal or other health regulations scarcely touched existing dwellings; and it was very difficult for a tenant to compel his landlord to remedy even very serious defects. Stringent local regulations, firmly and judiciously enforced, formed the best practicable means of improving middle-class dwellings.

Dr. E. M. Smeaton (medical officer of health, Nottingham) also read a paper upon the subject. He pointed out what was required in the arrangement and construction of the drainage in new houses in Nottingham, and discussed how far it was necessary to modify these requirements in endeavouring to secure the improvement of houses of older construction. With regard to the colouring of wall-papers with arsenical pigments, he said that was a sanitary defect common in middle-class houses. His attention had been forcibly drawn to the matter by certain cases of arsenical poisoning which had occurred from this cause in his own district, and he doubted not that cases of a similar nature were more frequent than was generally supposed. There could be no question as to the desirableness of using papers devoid of this poisonous colouring matter, and of urging this as one of the sanitary improvements needed in the houses of the middle classes.

Mr. M. H. Judge (London), thought they had not arrived at the point when they could call upon the Legislature to compel middle-class people to carry out any stated rules. They interfered with the poor, perhaps, because they could not offer any opposition. What was required was to educate the people with regard to sanitary matters as well as in other matters.

Mr. Baldwin Latham said it appeared that they were only just beginning to understand the real causes of many of the evils from which society suffered. There were certain movements of subterraneous waters which often proved a fruitful source of disease. Where there was the least amount of ground water present, disease was most rife. It was remarkable that in years like this, when for months we had had a steady downpour, we had an abnormal death-rate, for speaking generally all wet years were healthy years, and all dry years unhealthy. Very many of the evils from which we suffered were due to imperfect drainage works and house connexions that were carried out in our towns. He expressed himself in favour of the system of living in "flats," as in London and Scotland, remarking that it would be found, upon examination, to be more economical and healthy than the system commonly adopted. He condemned the practice of sleeping in rooms on the ground floor and in underground apartments.

Mr. M. J. Fox (Lymm) said he believed they did not know all the evils that arose in houses from ill-constructed sewers. Chronic headache was invariably found where there was an ill-constructed closet in a house. He was strongly in favour of the placing of baths in dwelling-houses. He should like it to be made compulsory upon every builder or owner of property to have a bath put into every house he erected. The great leading principle of house safety was disconnexion from the sewer, and the proper ventilation of pipes through which noxious gases pass.

Mr. H. H. Collins said that until people educated themselves to understand that sanitary was synonymous with commercial value, existing or future houses would not be erected with due regard to healthy considerations. As the result of twenty-five years' active practice of sanitary work, he held that the evils of bad drainage might be remedied at comparatively small expense. He believed that 25*l.* to 30*l.* expenditure would be all that was required to effect a complete ventilation in a medium-sized house. If people were only educated to the importance of this subject, the present legislation would be sufficient. It was to the interest both of occupiers and owners of houses to keep their premises in good sanitary condition.

Dr. Fox moved, "That this section, whilst not prepared to recommend at the present time an entire conformity of rural to urban powers, is, nevertheless, firmly of opinion that such distinction is maintained with serious disadvantage to the community in regard to control of new buildings, and they would urge the council to recommend to the Local Government Board the logical and practical necessity that exists in regard to health in any future amendment of the law for enacting and imposing building laws that shall be of equal obligation on both town and country."

Dr. Haviland seconded the motion, and it was carried.

An English Spelling Reform Association has been established, and proposes to collect, arrange, and distribute information on the subject of spelling reform; to collect works on spelling reform, and to preserve copies of articles bearing on the subject from periodicals; to institute and watch experiments on teaching to read, spell, and pronounce, with reformed systems; and to promote lectures and public meetings for the purpose of imparting information on spelling reform, and for memorialising public bodies in its favour. In view of the great number of considerations which will have to be weighed before adopting any one mode of reconstituting English orthography, the Spelling Reform Association abstains for the present from recommending any particular scheme. If the Association proceed cautiously and wisely, it may effect improvements.

THE DECORATION OF PUBLIC BUILDINGS:

STREET ARCHITECTURE.

In the Art Department of the Social Science Congress on the 2nd inst., the special question for consideration was, "What subjects are most suitable for the pictorial decoration of public buildings in this country, and on whom should the selection rest?" and in connexion with it a paper by Mr. G. F. Watts, R.A., on "The Decoration of Public Buildings," was read by Mr. Boyes, the active secretary of the department.

Mr. Watts said that the interest taken in art by Manchester was among the most encouraging signs of the times. It was not much that art should be the fashion with those who were at a loss how to get rid of time, but a strong desire for its presence in cities devoted to manufacture, like Manchester and Liverpool, proved in them a real sense of its value,—a value greater to an overworked nation than to any other, as no thoughtful mind could doubt. To provide interest and pleasure for a weary and disquieted population (interest and pleasure that could only tend to develop the finer qualities) was one of the wisest uses to which our energies could be applied, and had become a duty to all who had any patriotic feeling. To propose art as a panacea for all such evils as intemperance and the like would be absurd; but art and music, setting aside their value as supplying the places of amusement which our age had outgrown, were at least healthful influences and necessary portions of that general education in which alone there was hope. Public buildings might be turned into great picture-books, leading to considerable cultivation, in addition to affording a permanent source of pleasure. Nor would our gain end there. Art itself had need of the opportunities that would be so afforded for its best development. The truest and most natural expression of painting and sculpture was called forth in their alliance with architecture, each being really imperfect in itself, and each requiring the aid of the other to render the harmony perfect. Having put in a plea for art in connexion with church decoration, remarking that in church decoration the artist found the greatest and noblest opportunities, Mr. Watts observed that the growing conviction that it was of all things important to provide amusement and interest for the overstrained population at large had given rise to a strong opinion that music and art must come more and more into every-day life; not as trifles to be taken up when there was nothing else to do, but as occupations as necessary to our well-being as eating, drinking, sleeping, and working,—essential parts, in fact, of our social existence. Music of the very best kind was really widely known and cared for, and to give a similar advantage to art wider and more popular opportunities of instructing and improving the decoration of public buildings were necessary. The best national school of decorative art could only be created by means of the decoration of national buildings. This was important at the present moment for the sake of the progress of art; important also as a valuable source of instructive amusement to a hard-working population; and further, important as regarded the future of any town, by giving it dignity in the eyes of strangers and foreigners, and life even after its manufactories might be silent and dead. Nor should Art present herself to Manchester merely as one of the "Graces." When a certain natural sense of art died out, no handiwork would be done with pleasure, and therefore nothing would be really well done. The progress of invention was bringing mechanical aid more and more into use, and usurping more and more the place of the skilled workman's eye and hand. The inevitable must be accepted, and we must submit to the dynasty of machinery, although the fact remained that, wherever its rule extended, coldness and death replaced pulsation and life. We might in any case direct our efforts so as to maintain the life of art in work as long as possible. From the most material point of view, if we depended upon machinery alone, we could not hope to maintain pre-eminence in workmanship, and earnest attention to what belonged to the human and artistic qualities of any work, and the careful cultivation of all such, became a matter of peculiar importance in a manufacturing city. To nurture and develop national art and song, not as a luxury, but as a necessity to the people, should be the earnest task of all who had leisure and means. Yet, without the habitual presence of art in the decoration of public buildings, it could only be a luxury unknown in every-day life, and valueless to the history of the nation. It might also be said that by reason of the absence of art from its natural place, viz., the walls of our public buildings, many fine historical subjects that needed large space and large treatment had never been delineated at all, and some of the greatest qualities of our national character, such as solidity, manliness, sense of right and duty, courage in danger, perseverance under difficulties, &c., had been chronicled in literature, but were left untold to us in the language of art. It was, however, easier to lament than to avert, to pull down than to construct. It might, perhaps, therefore, be permitted to suggest an experiment that need not be costly. What he would suggest was the building of a music-room, large, yet perfectly simple in structure, to be decorated with simple designs, wholly carried out and completed, fitted, and ornamented by students and workmen. They should proceed, of course, under direction and supervision, encouragement being especially given to workmen for the elaboration of all the structural parts, no matter how long a time they might take in completion. This room should be devoted (even, perhaps, before the final perfecting of its decoration) to the performance of the music most essentially peculiar to England, music but too little valued in these days, part-songs, glees, madrigals, &c. The walls of the room should be painted by students with copies of the best and simplest examples known to us; or better still, they might here enlarge and reproduce some of the really admirable designs that appeared in the *Graphic* and other illustrated papers,—contemporary subjects for the most part, such as "Manning the Lifeboat," &c. Were these to prove failures, no matter; the walls could be used over and over again, as slates were at school. Perhaps, so encouraged, and with such exercise-ground for his faculties, the human soul that now toiled at his dull work amid smoke and grime might develope extraordinary qualities, bringing to bear upon his new interest a more hearty exertion than was common to those who lived in ease and luxury, and perchance producing magnificent though somewhat stern and rugged results, from which a great national school might spring hereafter. A national art in a large sense was necessary to our future position in history, and it was probable that with due encouragement, such an art, fraught with great vigour and character, might yet arise.

An interesting discussion ensued.

Mr. G. Aitchison was of opinion that the decoration of public buildings might be more extensively indulged in, such towns as Manchester and Liverpool being in a position easily to devote a small portion of the enormous wealth contained in them to that purpose. The difficulty to be contended with was the climate of England, and the smoke and dust of large towns. He hoped to see many public buildings decorated with highly interesting historical or local subjects in mosaic,—the material which he considered most suitable.

Professor Walker (Owens College) considered that if in elementary schools some little indication of right principles were implanted by means of even a few lessons or lecture lessons, there would be implanted in the national mind a germ which would ultimately bring forth good fruit.

Mr. Statham remarked that attention to art in our primary schools would in the next generation produce good results.

Mr. Alderman J. Thompson bore testimony to the value which the labours of the Association and the suggestions made at the Liverpool meeting had been to those who had taken an interest in the erection, and more especially the decoration, of the Town-hall.

The Chairman (Mr. W. Agnew) in closing the discussion, gave it as his opinion that much might be looked for from an encouragement of a system of teaching with respect to art matters in our primary schools. The style of decoration which he thought most suitable for our public buildings was mosaic.

Mr. T. C. Horsfall read a paper on "By what means can the inhabitants of large towns be induced to buy examples of good art?" of which the following is a summary:—Photographs, photo-engravings, and chromo-lithographs of good pictures are now so cheap that well-paid workpeople can afford to buy several such copies every year. The crowds of workpeople round printsellers' windows show that good pictures have some interest for workpeople. Why is it that, as a rule, only worthless engravings and coloured prints are found in their houses? The chief reasons probably are that few workpeople know that some copies of good pictures are cheap, and they do not know enough about the subjects of the pictures they see to care very deeply for them. For while one of the functions of pictures is to give pleasure by beautiful form and colour, pictures, as simply beautiful things, cannot compete with flowers and clouds. To have enduring interest, pictures must excite thought and feeling, and they can only do this when the things which they represent are familiar to us, or closely connected with things which are familiar to us. At present, owing to workpeople's ignorance of the subjects of the noblest kind of pictures, only pictures which cannot interest any one deeply, interest many of them at all. But if the culture of workpeople is to be deeply influenced by art, those pictures which, when understood, have the greatest power to interest, must be made intelligible to them. I suggest that in every town a number of people conversant with art should select such good cheap copies of pictures as they think can be made interesting to workpeople by explanation, and that they have printed on slips of paper,—one of which shall be sold with each copy,—a statement of their reasons for choosing it, a brief criticism of its merits and defects, an explanation of the incident or thing which it represents, and of the connexion existing between what it represents and incidents or things known to most workpeople; the price of the copy and of a simple frame for it. If printsellers would not sell the chosen copies and the printed slips, a collection could be placed in the local picture-gallery or arrangements be made for their being sold by the local agent of the Society for the Diffusion of Useful Knowledge. In Manchester, the work of choosing and explaining copies of pictures would probably be undertaken by the committee of the Art Museum, who have already undertaken to provide all the pictures in their collection with explanation and criticism.

Street Architecture.

On the 3rd inst. Mr. J. Murgatroyd, F.R.I.B.A., read a paper on the question, "Is it possible or desirable to establish regulations for the improvement of street architecture and for the prevention of the disfigurement of towns and cities?" He said the regulations which might be made divided themselves naturally into two classes,—(1) Those having for their object the regulation of the line of frontage, the enforcement of such methods of construction as would tend to check the spread of fire and disease, and the determination of such further methods of construction as to materials and strength as would tend to the safety of the public and of the inhabitants of the buildings; and (2) Those having for their object the enforcement of some predetermined design as regarded the architectural treatment of a whole street or of any distinct sections of it, or, as a smaller aim still, the ensuring of a certain minimum standard of excellence of design in individual buildings. As regarded the first class, the objects sought would appear to fall very properly under the jurisdiction of the local authorities, who already all over the kingdom had taken them in hand more or less successfully. As to the second part of his subject, we found that the architectural charm in old cities lay in the absence of formality and monotony, and he argued that we made a great mistake in planning our main streets as regarded their direction by making them straight, and as regarded their intersection by making them at right angles. He came to the general conclusion that it was desirable that the local authorities should regulate the position, width, and angles of intersection of our streets; that they should determine an average height for the elevations of the buildings; that they should within reasonable limits permit, but not too profusely, the project of balconies and oriel windows, so as not to interfere with the access of light to the street. He thought also that it was desirable that elevations of proposed buildings should be submitted to the local authorities, and that they should have a power to veto the carrying out of any design which was not sufficiently good for the neighbourhood, it always being understood that an appeal from their decision should be referred to some architect of known ability, whose proclivities would not be adverse to the style of building proposed. Beyond that he did not think it desirable that any authority should travel.

A lengthy discussion ensued.—Mr. H. C. Boyes was of opinion that in such matters as street hoardings and girder bridges wholesome control might be exercised; but he did not think that it would be possible or desirable to establish regulations as to what style of architecture should be adopted in any street or city. That would be an undue infringement of the liberty of the subject, and, if established, would have a tendency to reduce everything to the dead level of monotony.—Mr. T. C. Clarke remarked that the submitting of one architect's plans to another, as was suggested in the paper, had been found to work badly. He did not assent to the opinion that streets should always be curved. We suffered much from the girder bridges and other montrosities which were being perpetrated.—Mr. Statham agreed with much that had been said about the horrible straightness of modern streets, but deprecated attempts to introduce picturesqueness by means of forming winding streets. Such picturesqueness would always betray itself as a produced effect.—Mr. G. Aitchison expressed his non-concurrence in the idea of making all the houses on any given general plan in even a short street, and advocated the use in house-building of polished granite or glazed ornamental bricks.—The Chairman, the Hon. Dudley Fortescue, said he did not think they could enforce upon any private parties who were laying out their lands the necessity of following the line of beauty, considering the value of land. A great deal, as regarded street architecture, must depend on public taste, controlled by the judgment of an appreciative populace.

BRICKS AND STONE FROM FURNACE SLAG.

In our earlier volumes many suggestions were made for the utilisation of the enormous amount of scoria or refuse produced by blast-furnaces in various parts of the country, and we have given accounts of various endeavours made to bring this about with good effect. Some time since, Mr. Charles Wood, of Middlesbrough-on-Tees, directed his attention to the utilisation of this unproductive material, and after about five years of study, experiment, and practical research, he has succeeded in effecting the conversion of blast-furnace slag into various forms, and in applying it to several industrial purposes upon a practical and commercial scale; and has succeeded in utilising it for the manufacture of building-bricks, concrete, cement, mortar, and slag-wool. The various processes of conversion and manufacture are carried on under Mr. Wood's management at the Cleveland Slag Works at Middlesbrough, which, together with the adjoining Tees Iron Works, belong to Messrs. Gilkes, Wilson, Pease, & Co., of which latter works Mr. Wood is also the manager; from these the slag is obtained. At the iron works the slag is run from the blast furnaces into two different machines, one of which produces a coarse kind of shingle, and the other a fine sand. For making shingle the liquid slag is run direct from the blast furnaces on to a circular horizontal rotative table, composed of thick slabs of iron kept cool by having water circulated through them. The table, which revolves slowly, carries the slag round to a certain point, by which time it has solidified. At that point it encounters a stream of water, which further cools it, and soon after it comes against a set of scrapers, which break it up and clear it off the table, delivering it into wagons placed below, and which convey it away. For producing slag-sand, the slag is run from the blast furnace into a hollow wheel revolving upon a horizontal axis, and fitted with iron buckets inside. A bath of water is maintained inside the wheel at the bottom, and is kept in a state of violent agitation by the revolving action. As the molten slag enters the body of water it is immediately disintegrated and assumes the form of sand, the water taking up the heat from the molten slag and giving it off in the shape of steam. A constant flow of water is maintained into the machine, and the sand is separated from it and elevated to the top of the machine by the bucket-plates, which are perforated. Arrived at the upper part of the machine, the slag sand is dropped into a spout, and thence finds its way into wooden wagons, by which it is conveyed to the slag works for manufacture.

The slag works occupy a main building, 120 ft. long, 50 ft. wide, and five stories high, with basement beneath, and engine-house, boiler-house, and other accessories annexed. This building was constructed of slag cement concrete, composed of four parts of slag-shingle to one part of cement, and it forms a very solid and comparatively indestructible structure. The slag-sand is brought here from the blast-furnace, and is tipped into stores below, whence it is elevated to the top floor, by means of a hoist, which is fitted with an automatic safety-brake, designed by Mr. Wood. The special manufacture in this building is that of bricks, and in carrying this out two machines are used, one having been designed by Mr. J. J. Bodmer, and the other by Mr. Wood. For the Wood machine the sand is delivered into a hopper, through a coarse screen, which retains any pieces of slag or other substances which may have found their way into the sand. Arrived at the floor below, the sand is automatically measured on a revolving cylinder, divided on the outside and placed at the bottom of the hopper. From another hopper selenitic lime, in powder, is also measured by a similar contrivance, and the two substances unite in one shoot, where they become mixed in the proportion of ten parts of sand to one of lime. The mixture is carried down through a hopper into the pug-mill of the brick-making machine, where the two substances are further incorporated. This machine was designed by Mr. Wood, and is the outcome of considerable experience with another machine, which it has to some extent superseded. Mr. Wood's brick-machine has a horizontal circular rotating moulding-table, which contains six pairs of moulds, four bricks being pressed at the same time. During the time of pressing, which is effected by direct mechanical pressure, the table remains stationary, and at the same time four other moulds are being filled, and the remaining four are delivering the pressed bricks. As they are delivered they are taken off the machine by two girls, and are removed to an air-drying shed, the machine producing from 11,000 to 12,000 bricks per day. There they remain for a week or ten days, after which they are stacked in the open air to harden, which occupies another five weeks or so, when the bricks are ready for the market. The bricks thus produced are very tough. They do not split when a nail is driven into them, and are largely used for interior work, for which they are well adapted from the regularity of their surface and other qualities. They find a good market in London, and are not subject to breakage in transit. According to a certificate recently issued from Kirkaldy's testing works, some bricks taken from a stock three years old were not crushed until a pressure of 21 tons had been reached; others taken from a stock four months old were crushed with nine tons pressure, thus showing not only unusual toughness and strength, but that they were greatly improved by age.

In another department the manufacture of artificial stone is carried on, the stone being moulded into chimney-pieces, window-heads, balustrading, and outside ornamental builders' work generally. The stone is composed of two parts and a half of finely pulverised slag and two parts and a half of ground brick to one part of Portland cement. The mixture is run into moulds, and sets quickly, the articles being ready for the market in four or five days. Besides bricks and stone articles, the slag is used for making mortar, cement, and concrete. The mortar is a mixture of slag and common lime, the cement being composed of the same materials, with the addition of iron oxides. Slag cement also forms the subject of a recent invention by Mr. Frederick Ransome, who has produced some very remarkable results. His cement consists of a mixture of slag-sand and carbonate of lime, in the proportion of two parts of lime to one part of slag-sand. These are burnt together, and experiments show the result to be a cement possessing nearly 30 per cent. greater strength than Portland cement.

City of London School Competition.—At the meeting of the Court of Common Council, on the 2nd inst., special premiums of 50*l.* were voted to the authors of "L," "Move," and "Palmam qui meruit ferat," for the ability shown in those designs. "L" is by Messrs. Oliver & Leeson, of Newcastle-upon-Tyne; "Move," by Messrs. J. & S. Flint Clarkson, of Great Ormond-street, London. Mr. Deputy Fowler gave notice of a motion to allow 50*l.* to each of the unsuccessful competitors.

"BUILDINGS AND LANDSCAPE."

We reproduce this week the sketches in illustration of the paper under the above title read by Mr. H. H. Statham in the Art Section of the Social Science Congress at Manchester on the 3rd inst. The following is the substance of the paper:—

No one will deny that the position and character of the buildings introduced into a landscape have some influence on the landscape itself, good or bad, according as the building is designed and placed so as to compose well with the lines of the landscape and harmonise with its character, or the reverse. To make an effort towards the former is almost a social duty, since, though the comfort of the house as a residence concerns the owner and his friends only, its appearance in the landscape concerns all who pass by. The picturesque relation of buildings to landscape depends, however, on qualities difficult to define, and is largely influenced by association. Mr. Herbert Spencer, in an essay on "The Sources of Architectural Types," has endeavoured to frame a theory of the subject. He says that he was struck by the incongruity, in a landscape in one of our exhibitions, produced by the introduction of a symmetrical Greek building in a mountainous and somewhat wild landscape, and considered that in such a case the artist had sinned against that unity which is essential to a good picture. When the other constituents of a landscape, he says, have irregular forms, the structures introduced must have irregular forms, that they may seem to form part of the landscape. "A castle," he continues, "which is more irregular than any other kind of building, pleases most when seated amid crags and precipices, while a castle on a plain seems an incongruity. The partly regular and partly irregular forms of our old farmhouses and our gabled Gothic manors and abbeys appear quite in harmony with an undulating wooded country. In towns we prefer symmetrical architecture, and in towns it produces in us no feeling of incongruity, because all surrounding things, men, horses, and vehicles, are symmetrical also." His conclusion is that in the choice of such forms men are unconsciously influenced by the forms around them.

This simple and consistent theory has the drawback of some other very consistent theories,—it is in opposition to the facts. If it be true that men are thus influenced in architectural design by their surroundings, how is it that so many of the Greek temples are actually found on broken and irregular sites, and that the Parthenon itself, the most minutely symmetrical building in existence, stands on a precipitous and irregular crag? Again, let it be true that a castle appears suitable on a precipitous site, and is out of place on a plain, this cannot be because the castle is "the most irregular form of building," as it very frequently is quite the reverse; and on the other hand the farmhouse or cottage may be as irregular as you please, but yet will not appear suitable on a craggy site. We must look a little more into the matter to get the true philosophy of it.

In the particular case of the Greek temple it may be observed at once that the method of connecting it with the landscape has something to do with the result. If we plant a symmetrical Greek temple right on a stretch of broken ground (as in fig. 1 of the sketches), no doubt it will seem in too harsh contrast with the scene. If, however, we place it on an artificial platform, and connect this platform gradually with the landscape by paths and flights of steps (fig. 2), the abruptness of the transition is carried off, and the building seems quite in its place. After having once established this necessary connexion between the building and the landscape, it may be said that the contrast between the lines of the building and of the landscape is rather an advantage than otherwise in point of effect, and that the rough and irregular lines of the landscape give the more emphasis to the graceful and humanising expression of the building. As an instance of this we may take the scene fig. 3, from Claude's "Liber Veritatis," where the temple is placed on the crag and the castellated architecture below, and where the temple in this position seems to impart a peculiar elegance and grace of expression to the landscape. In fig. 4 I have drawn the same landscape again, reversing the architecture and placing a castle on the top of the crag; but I think it is at least an open question whether the composition is improved thereby.

To consider the subject more generally it

may be said that the relation of the building, and especially of the domestic building, to the landscape is threefold in its nature. There is the relation of character and association, of material, and of position or composition. Character and association form conjointly the first element, for they are in fact nearly inseparable, and the influence of association is what really explains the connexion between castles and rocky landscapes, which as a fact is indisputable, although the reason assigned for it by Mr. Herbert Spencer is untenable. A castle is by association and in appearance a building intended as a stronghold, either a refuge in a comparatively inaccessible position or a defence placed in a commanding position. If we place a building imitating this stronghold style on a plain and amid obviously peaceful or pastoral surroundings, it does at once appear out of place, because such strength and massiveness are thrown away on a building placed in a situation unfit for the purposes of defence, and in which there is no such exposure to the weather as to render extra thickness and massiveness necessary for resisting the action of tempest, for this again is part of the association which renders the castle character most suitable in an exposed situation. In fig. 5, representing Udny Castle in Scotland (before the recent alterations and additions), the aspect of the castle, though it is symmetrical enough, seems quite out of keeping with the smooth lawn from which it rises; we expect to see such a building situated rather as indicated in fig. 6. Borthwick Castle (fig. 7) illustrates the natural and suitable position of a building of this character. Fig. 8 is a composition by Repton, the landscape-gardener, who has been immortalised by Jane Austen,* and is a good instance of the false and pretentious in architectural character. It is of course an imitation castle, and offends our taste not only from this fact but from the utter unsuitability of its position, for even in the Middle Ages people understood the conditions of fortification better than to place a castle amid woods which would have given cover for an attacking party up to its very walls. And it may be further said that Spencer's theory in regard to the subject is so far from true, that (as Mr. Fergusson has pointed out) the irregular piles of many of the French Gothic cathedrals and churches only appear well in the midst of the clinging masses of town houses and would be almost monstrosities in the country, while it is certain that the symmetrical lines of Classic architecture harmonise well enough with the undulating wooded country of Poussin and Claude, as in another example from the "Liber Veritatis" (fig. 9).

The relation between building and landscape as regards material turns very much upon the use, as far as possible, of the natural building material of the district, which, as soon as the first rawness of new material is worn off, is sure to harmonise with the prevalent tone of the landscape in a way in which artificial material brought from other localities never can. If we suppose that in such a quiet rural nook as is shown in fig. 10, the old houses, simply built of stone and timber, are condemned by an improving landlord, who proceeds to procure patent compressed bricks from Staffordshire, and ornamental iron crestings from Birmingham, and builds a new streaky-zebra house (fig. 11) in place of the old ones, the harmony of the landscape is at once destroyed; artificial materials, upon which "the smell of fire hath passed," and which glare with raw colour and wriggle in curious angles, have been introduced on the scene, and its characteristic unity of effect and of feeling has vanished.

The most interesting phase of the subject, however, is that which concerns the position of the building and of its lines in reference to the leading features and lines of the landscape,—what painters call the composition of the whole. And here we shall find that nearly all practice and example lead to the conclusion that the effect is best when the building is in opposition to the lines of the landscape. Where we have the most craggy and precipitous landscape, there we require low heavy masses of building which seem to be a part of the rock (fig. 12); their higher elevation would only make them seem insecure. Where we have a low level landscape (fig. 13) whose successive distances make horizontal lines across the picture, there we find the spire rises with much effect, its aspiring lines the more emphasised (as in the flat county of Lincolnshire) by the horizontal lines of the landscape. Fig. 14 shows the outlines of a composition of Turner's, of Salisbury, where the manner of making the vertical lines of the spire cut across the horizontal line of the long low hill behind is obviously intentional, and whether existing in nature, or composed by the painter, is equally to our purpose as an illustration. Fig. 15 is from a rough sketch from Richard Wilson's sketch-book, where the uneven nature of the hilly landscape contrasts with the low level lines of the buildings. Fig. 16 is from a book preserved in the library of the Institute of Architects, the sketch-book of an English architect on the Rhine some two centuries since, and appears a peculiarly pleasing and happy instance of harmony between the buildings and the landscape, the castle frowning from the top of the hill, the church amid its belt of trees reposing peacefully at the foot. Claude's composition (fig. 17), again from the "Liber Veritatis," shows a similar kind of disposition; the Classic temple at the foot of the hill, the Mediæval castle at the top; and fig. 18, a rough sketch of the Château d'Amboise in France, reminds us how special circumstances influence character in these things, for here we see the tower reaching down a firm foot to the base of the hill and guarding the precipice, while the less defensible domestic buildings are placed in security at the top. Fig. 19, the Villa Madama, near Rome, is an example of the good effect that may be produced by horizontal lines in a building cutting against the sloping lines of the hill, the horizontality of the building, if we may so speak, being increased by the contrast. In fig. 20 two kinds of contrast are combined; the lines of the landscape are from Turner's view of Greville, but I have altered the architecture: here again the spire is seen rising from the flat country and the low clumps of trees, and the horizontal building occupies the side of the hill and is contrasted by its slope and by the vertical lines of the poplars; and observe that the small tower added to the building is kept at the extremity furthest from the hill-side; had it been otherwise, it would merely have appeared to be crowded into the hill.

The influence of buildings in adding to or decreasing the scale of a landscape is very considerable. In Claude's composition (fig. 21), we see how, having placed a castle near the foreground, he gives so much increased value and extent to the middle distance by the similar building on the shore of the bay, and in fact, in the absence of colour or other means of giving aërial perspective, this distant building would really almost govern the perspective and proportion of the scene, and we could make it seem more or less extensive by diminishing or increasing the size of the castle. In fig. 22 I have shown an instance from my own experience of a building, a reservoir for water, completely dwarfing the scale of a landscape by being designed exactly like a common form of small cottage with a chimney at one end, and without any detail whatever from which to judge of its size, which could only be ascertained on close inspection. Had it, even with the same general outline, been broken up by buttresses, &c., as indicated in fig. 23, this falsifying of scale would have been avoided. Fig. 24 is another bit of real landscape familiar to me, and which always gave me pleasure merely from the peculiarly happy manner in which the house (a common-place one enough in itself) is placed exactly at the point where the scene seems to require; this will be at once evident on comparing it with the duplicate of the same view (fig. 25), where the house is moved to another position. In other respects too the house may affect the whole feeling of the scene; if it occupies (fig. 26) a sheltered position at the base of the hill, there is a feeling of repose and retirement imparted to the whole; if on the contrary we place the building conspicuously on a spur of the hill (fig. 27), we give to the landscape at once an expression of alertness and outlook which alters its whole character. The two next illustrations perhaps come more strictly under the head of character than of composition; but their object is to illustrate how in a quiet lake-scene we may have a house of graceful villa character and with no apparent force of style, while if we are called to build one in a bleak situation on the seashore, we must discard all graceful details, we must have a character as solid as possible, broad masses of wall, small windows, the base of the wall battered, everything which can increase the idea of solidity and power of resistance to winds and waves: and here again association comes in, for the peculiar fitness of these rounded surfaces and of the spreading base are derived really from such buildings as lighthouses, upon which, when they have to stand absolutely among the waves, such characteristics have been impressed in obedience to practical necessity, and thus become a language for the expression of sea-coast architecture.

The two sketches, 30 and 31, indicate roughly the principle upon which a mansion on a great scale may be systematically connected with the landscape; instead of merely placing the house on the rising ground, we may have first a terrace a story lower, still architecturally formal; then a garden on the next level, laid out symmetrically so as still to correspond more or less with the architecture; the next level will bring us down into an informal and irregular garden which by almost insensible gradations will be connected with plantations and with the natural landscape; and thus the mansion, instead of appearing an interloper on the scene, will seem gradually to arise almost necessarily out of the landscape, of which it will appear to be only the natural development.

The small sketch (32) is added as [illegible]riosity; it is copied from the initial letter of a fifteenth-century MS. in Lambeth Palace Library, and was one of the very few indications I could find, among such sources, of any intentional landscape and building composition. Here the position of the distant spire, rising just out of the angle formed by the two lines of hill, is really bad composition, but the fact of its being so placed was obviously intentional and with the idea of producing a good effect.

Before quitting the subject, it may be observed that there is no idea, in offering these remarks, of laying down rules about a subject in regard to which absolute demonstration is of course impossible; still less of doing anything more than give a few hints and suggestions on a subject on which a book might very well be written. But the subject will certainly bear more consideration than it has received, and there is one special reason why architects, and those who employ the services of architects, should give it more attention, viz., that all building operations while in progress involve the temporary spoliation of the landscape, and are at the time a source of disfigurement to the scene. It becomes therefore the more incumbent on us so to design and place our building that when the contractor's plant is cleared away, the ground put in order, and the building has lost the raw effect peculiar to new buildings, it may be found that in the end a permanent source of picturesque interest has been added to the landscape, instead of a permanent eyesore.

* *Vide* "Mansfield Park."

THE PARIS CHAMBER OF COMMERCE.

The Paris Chamber of Commerce, erected under the third empire, is built upon the site occupied in the eleventh century by the churches of St. Bartholomew and St. Peter of Arcis. The ruins of these buildings were discovered, seven mètres below the surface, in digging the foundations for the present edifice. The business of the Chamber of Commerce was formerly carried on at the Exchange, but owing to the increase of trade, the Council of the Department of the Seine resolved upon the erection of the new building, its design and superintendence being entrusted to M. A. N. Bailly, member of the Institute.

Our illustration represents the staircase, one of the handsomest recently constructed in Paris. The steps, counter-steps, and balustrades are of polished stone, brought from Isère, and greatly resembling marble. In the four niches at the top of the staircase are allegorical figures representing mechanical and industrial Art, maritime and terrestrial Commerce. Above the doors are sculptured the arms of France and of Paris.

The building covers an area of 4,125 superficial mètres, and the total cost exceeds 270,000*l.*

An Electric Mining Lamp.—A number of gentlemen lately witnessed Mr. George E. André's electric mining-lamp in operation. The atmosphere being excluded from the light, the risk of explosion, with its disastrous effects, is avoided, and this is attained advantageously and economically, for the light emitted is of great power, and the cost is said to be far less than that of safety lamps or candles.

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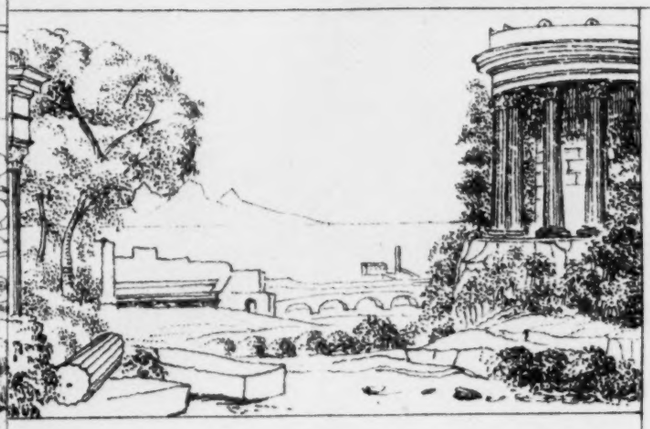

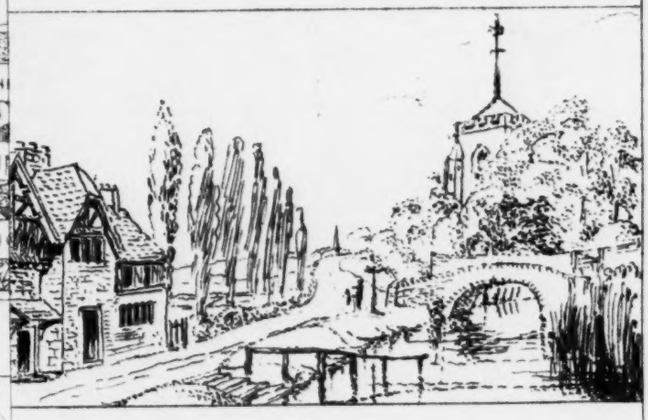

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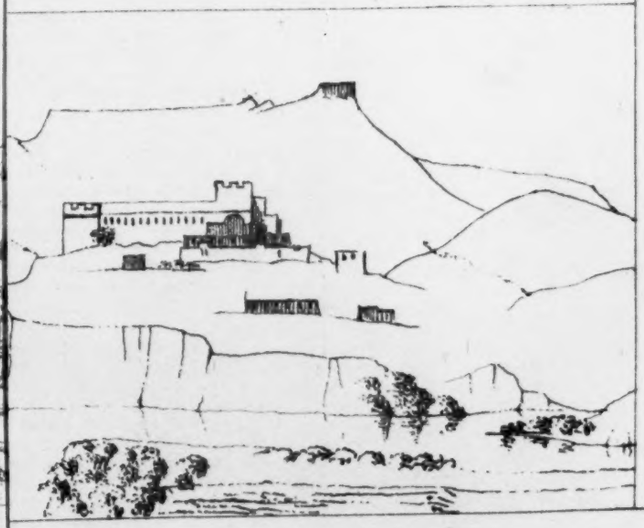

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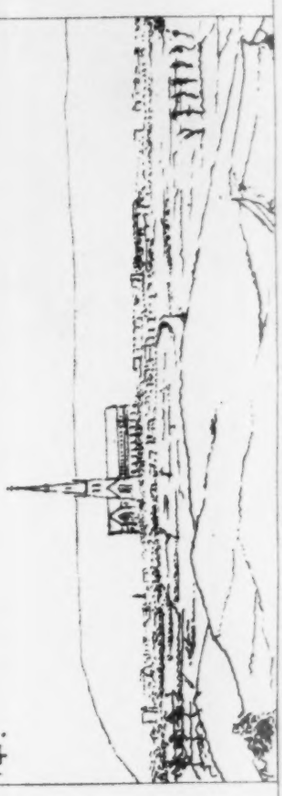

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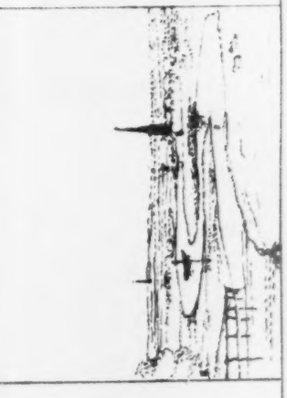

12.

Whiteman & Bass London

SKETCHES IN ILLUSTRATION OF PAPER ON BUILDINGS AND LANDSCAPE, BY H. H. STATHAM

ART SECTION, SOCIAL SCIENCE CONGRESS, 1879.

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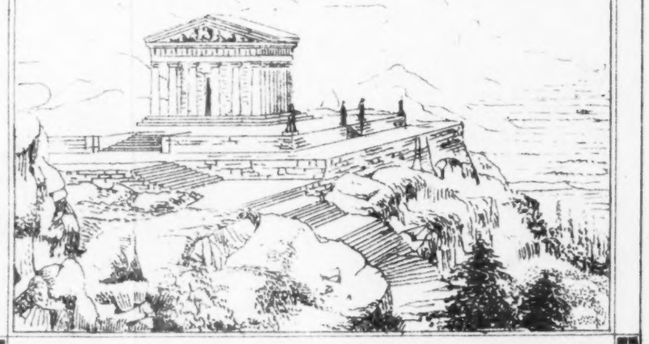

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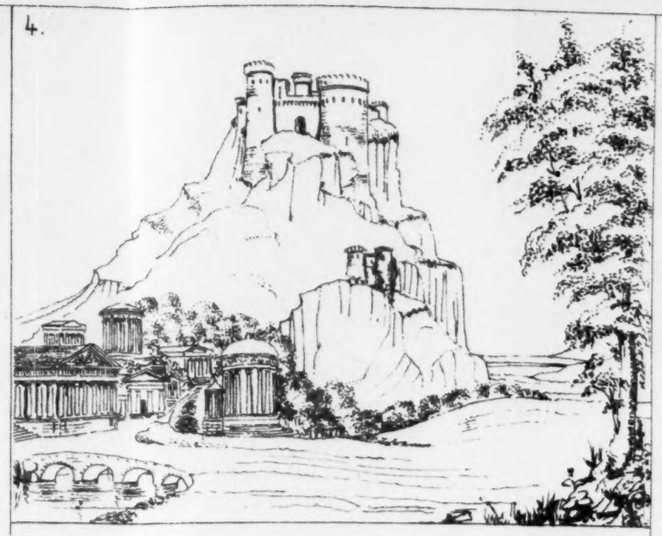

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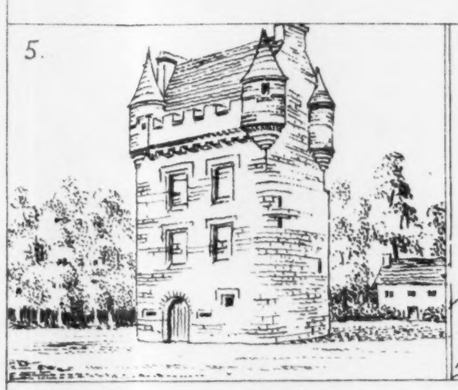

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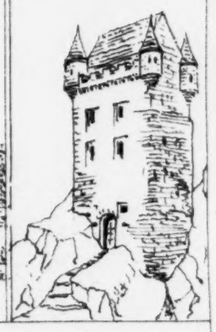

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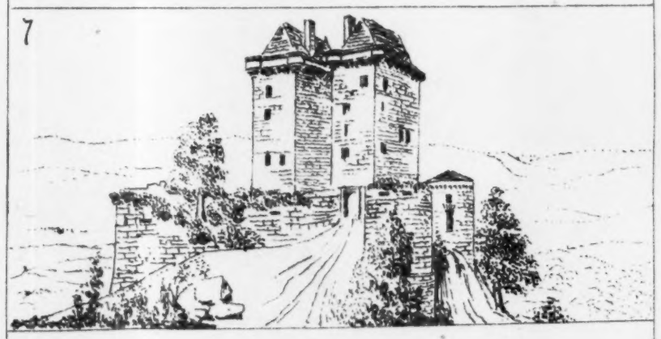

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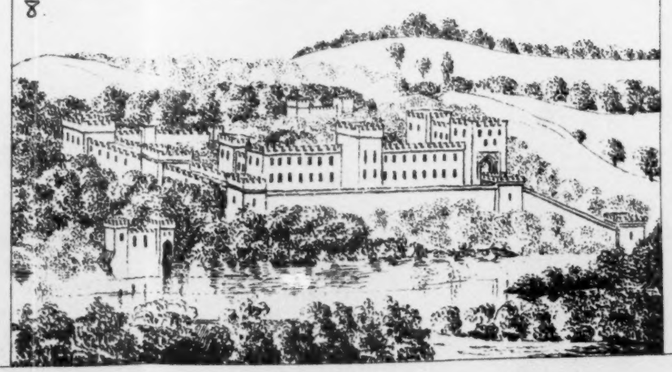

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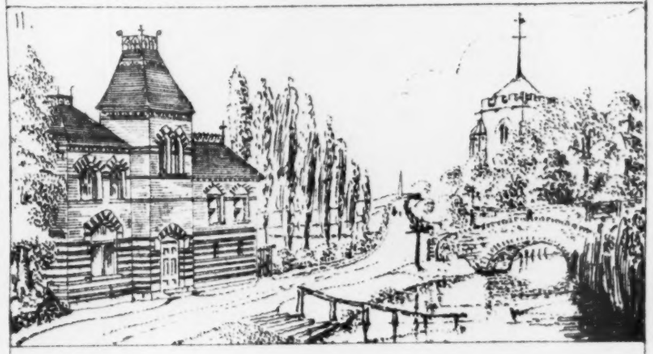

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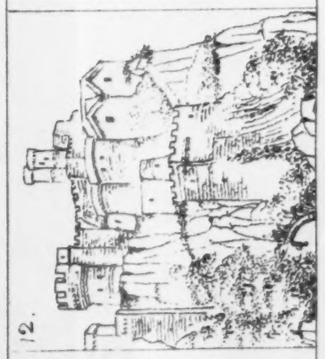

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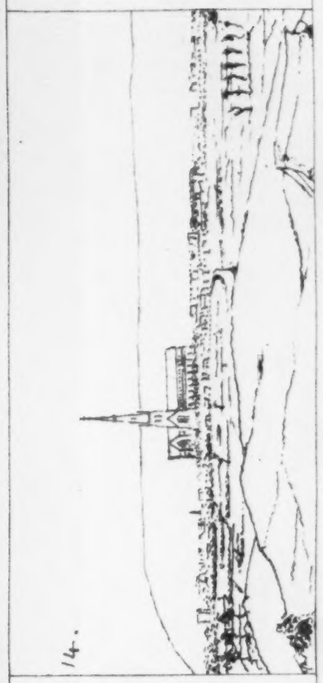

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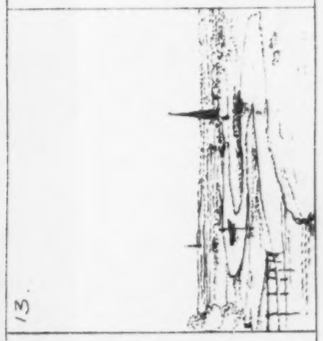

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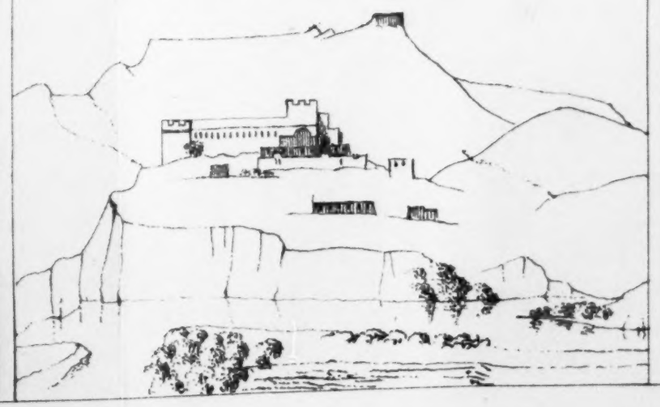

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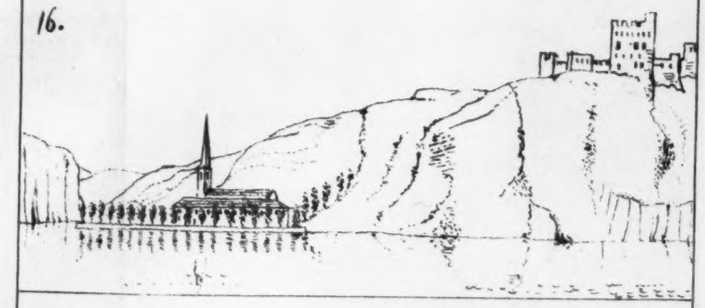

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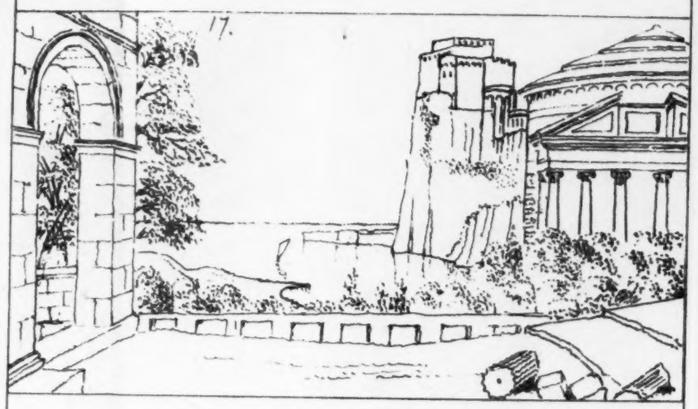

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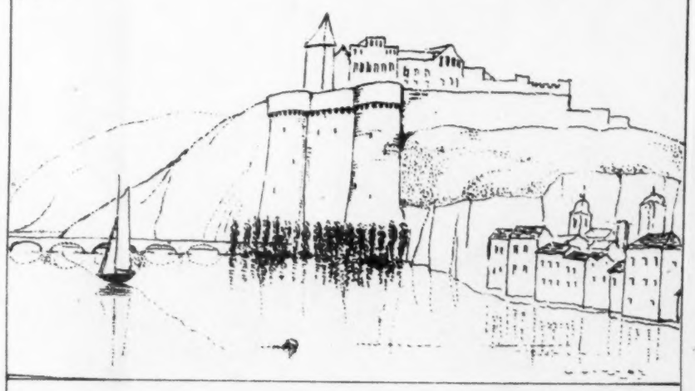

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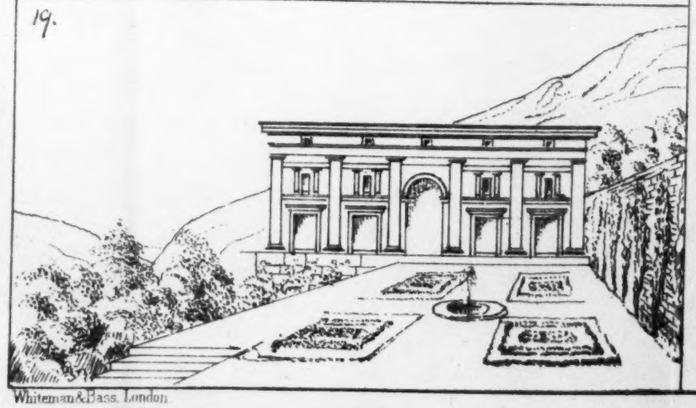

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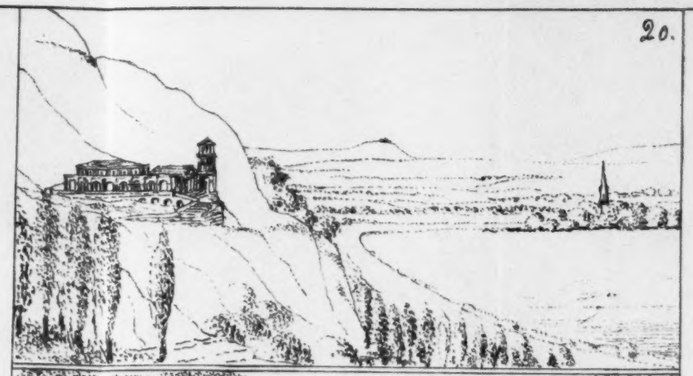

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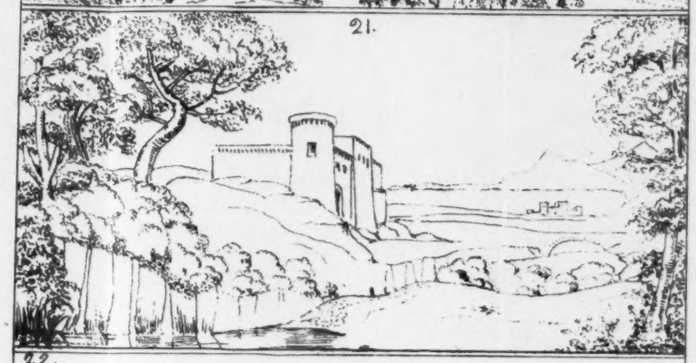

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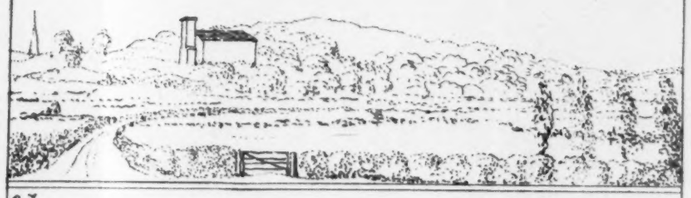

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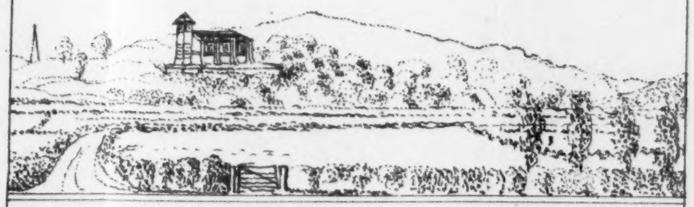

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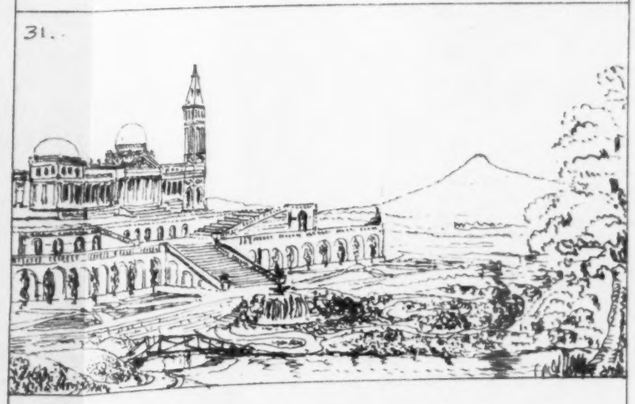

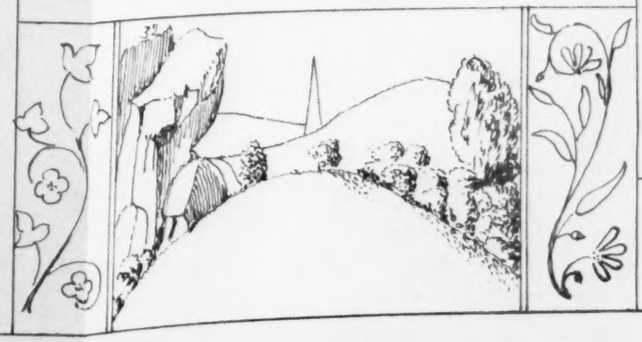

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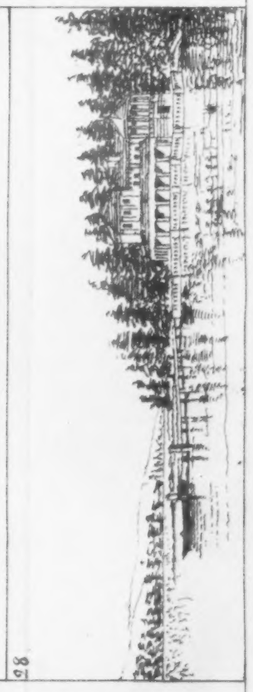

Whiteman & Bass, London

THE PARIS CHAMBER OF COMMERCE: STAIRCASE.—MONSIEUR A. N. BAILLY, ARCHITECT.

THE DRAMA AS A MORAL TEACHER.*

In the course of human progress a new idea begins to grow slowly, gradually gathers strength, while being passed in whispers from ear to ear, until some man, bolder than his fellows, cries it aloud in the market-place. For a moment the world is startled; but if the idea be good and true, quickly assimilates it, and goes on its way refreshed and strengthened. An illustration of this may be seen in the change of attitude of the Church towards the Stage during the last two or three hundred years. I say the Church, because the Church is the one sole cause and origin of all the persecution to which actors have been subjected. There was a time when it refused Christian burial to actors. There was a preacher in Scotland once who declared that the theatre was literally the pit of hell, and that the Devil and his imps held high revelry there; and as there are thousands who will receive for truth whatever they may hear from the pulpit, so his congregation proved their faith in him by burning to the ground the only theatre they could get at. The incendiarism was not only wicked, but stupid; for a little fire, more or less, would not have inconvenienced the supposed occupants of the house. Even in our own time congregations have been warned never to enter a theatre; accidents in theatres, through which many lives have been lost, have been pointed at as manifestations of Divine wrath. A strange connexion has been suggested between the facts of the centre of London containing the largest number of theatres and also the largest number of what are called haunts of vice. No conclusion, however, was drawn from the fact that the same district contained also the largest number of churches. It is, indeed, refreshing to turn from such exhibitions of ignorance to the utterances of the more enlightened preachers of the present day. One sermon by the Rev. Mr. Haweis was not a defence of the stage,—the stage needs no defence,—but a scathing indictment against those of his brethren who would thank their God that they had never been inside a theatre nor known an actor, and then vilify both without a scruple. What strikes one most in this prejudice against the stage is not its wickedness, but its utter foolishness. The theatre is neither moral nor immoral. For want of a better word let us call it neutral. The dramatic art conveys a play to an audience: *that play* may be moral or immoral; but if immoral, is, therefore, the dramatic art to be abolished? Admit such an argument, and what shall we have left? Some naughty boy says "damn": abolish the art of speech! A wicked correspondence is being carried on: down with the post-office and telegraph! An artist paints an indecent picture: let no man paint again on pain of death! To call the theatre immoral, is as logical as to call the telegraph-wire immoral. It is a means of expression, and the strongest we have. No art can convey a thought so directly and so powerfully as the "youngest of the sister arts, where all the graces join." If, then, objection cannot be taken against the art, let us see whether anything can be said against the plays and the players. As to the plays of the present day, it certainly does not appear that any serious charge could be upheld against their moral tone. In fact, no immoral play could be successful in a moral age. Besides, the very publicity of stage-representation will always prevent the worst play from being as bad as the worst book, or the worst anything which can be studied in the privacy of one's chamber. As to the players, it has always appeared to me a piece of unpardonable impertinence to discuss their private characters. The public interest in the actor should be confined to his performance on the stage. Not that actors need fear comparison with any other class. They are as good and as bad, for they are members of the same human family. But even if they were worse than their fellow men, it would have to be proved that they are so because of their calling. Now, I believe it to be a fact that no calling ever creates either the good or evil qualities of a man; but every calling may give a distinct colouring to those qualities. Besides, if an actor's character were markedly affected by his profession, actors would be all, more or less, alike; but there are all shades and varieties of men and women amongst us. We have ladies and gentlemen by birth and education,—refined, accomplished, and high-minded; we have also some whose education and training have been of a somewhat elementary character. We have broad freethinkers, regular churchgoers, high and low; and we can also boast of a few narrow-minded bigots. We are, in short, an epitome of the world at large. Why, then, this outcry for dramatic reform? Amongst those who cry out for this reform are the best, intelligent, disinterested men,—men of high culture, who recognise in the theatre a powerful engine of education, a glorious means of increasing the sum of human happiness, and who see that it is not producing the amount or quality of work of which it is capable. To such men every actor who loves and honours his art will hold out his hand. With such men he will gladly consult and labour. And it is to be hoped that from the actor such men will not disdain to learn a lesson. Let me say, then, that what the stage wants is not reform, but free development. A child whose growth is stunted by insufficient and unwholesome food, air, and by cruelty, does not want to be recreated; he wants free scope allowed to his natural development by plenty of food and air, and by kindness. This is just what we want. Let young preachers undo the evil done by the preachers of the past; let them teach their congregations to respect the actor's art as they do the painter's or the musician's; let them familiarise their flocks with the works of the best dramatic authors; let them wash out of their brains the notion that anything unworthy necessarily attaches to the theatre and its belongings. Let them go to the theatre themselves, and speak of it as they find it. Compulsory education will, unconsciously, do us an enormous amount of good; for as enlightenment spreads, the taste for the higher class of plays will spread also. Many managers are, unfortunately, actuated solely by the desire to make money. The shilling of the vulgar is exactly of the same value as the shilling of the cultured; and as there are so many more of the former why should the manager cater for the few and not for the many? Let education equalise the numbers, and the same mercenary motive will cause the production of higher-class plays. Let us have justice and freedom from attack, and let the education of the masses raise their intelligence: that is all we ask from the outside world. The rest we can, and will in time, do ourselves. The great difficulty is to find a sufficient number of competent managers. There are plenty of them who are tradesmen, and whose only object is to make money; but, although I would not have a manager lose sight of his pecuniary interests, I think he should make the interests of his art his first consideration. To judge of a play or an actor solely by the amount of money either draws is as unjust as it is unwise. The public must often be given time to discover merits which may not prove attractive at the first glance. Let me give an instance. Some forty-one years ago there appeared at the Théâtre Français a girl of seventeen. She played some half a dozen classical parts in the tragedies of Corneille and Racine. It was in July and August, and the receipts of the house averaged 15*l.* or 20*l.* Now, had this occurred in London, at a theatre managed on the money-making principle, this young lady would have been politely bowed out, and, perhaps, never been heard of again. But at the Français they do not make money their first consideration, and this girl continued acting into the cooler weather, the result being that by November the theatre could not hold the people who crowded to see her. The name of this transcendent genius was Rachel. We have no Rachels now, but I could mention some of our best performers who were neglected for years by managers too ignorant or indolent to discover a talent which accident at last brought forth. As to new dramatic authors, their case is just as bad. One of our most admired dramatists was discovered by an actor of good position, who tried for eight years, in vain, to procure him a hearing. An accident at last led to the production of one of his comedies, and he flashed into fame. Upon this success another comedy of his was immediately accepted by a manager who had rejected it before. Plays will sometimes not find a market for twenty or thirty years after they have been written, a long time out of an author's life. Let managers take an interest in discovering new talent in authors and actors, and in cultivating and training it, and the stage would make rapid strides towards a higher degree of excellence. There are managers who do all that can possibly be required of them; but their power is limited to the very few theatres under their control, and it is too much to ask one man to run such risks as the course I have pointed out would entail. A carefully-produced play will sometimes bring with it a loss of 3,000*l.* and upwards. The dread of such a prospect is enough to blind one's judgment in the choice of plays and players. But I am convinced that a plan could be devised by which a number of the best actors and actresses might co-operate to establish a theatre which should have all the advantages and merits of the Théâtre Français, and should also be a source of profit to its members, without the aid of State subvention or outside subscriptions. Such a plan, however, would have to be worked out by those who have a thorough and special knowledge of the stage, *i.e.*, by actors.

In the course of the discussion which followed,

Mr. Traice (Manchester) urged that the performance of stage plays had a highly educational effect upon the young, and induced them to study the human character and the aims and objects of life. He contended that modern plays, although they might be very silly and pointless, were rarely immoral or indecent. There was, he thought, no justification for the wholesale denunciation of the stage of to-day. He concurred with Sheridan that there are valetudinarians in morals as well as in health, and that the State was not bound to legislate for them.

Mr. Freeland remarked that the character of the supply depended upon the demand. If there was a healthy demand there would be a healthy supply. Nothing could have produced a more profound effect upon large masses of the people than the performance of the sensational drama of "Drink," founded upon Emile Zola's novel, "L'Assommoir."

Mr. T. C. Horsfall concurred in the views of other speakers, that the effect of the drama, where it gave truthful representations, was beneficial. He was in favour of some supervision over the stage, and referred to the Comédie Française as a striking example of the advantages of supervision. At the same time, he believed that in this country State control in theatrical matters would be objectionable, and would not be tolerated.

The Bishop of Manchester reminded those who had spoken of the powerful effects of some sensational plays, that though Alexander wept over the drama, he was not turned from the cruelties of his warfare; and it was doubtful whether King Thebaw had not melting moments from the same cause before murdering his nearest relations. The Dramatic Reform Association, of which he (the Bishop) was a member, seemed to be working in the right direction, but its effects were very slow to manifest themselves. An archdeacon in a distant county once told him that he had been deterred through life from gaming by having seen "The Gamester" played in his youth. He (the Bishop) was at school in two Shropshire towns which were visited by the Staunton Company,—the best local company of actors he ever saw,—and both Dr. Butler and Dr. Rowley allowed their good boys to go once a month to see the play. He did not remember, in the plays he then witnessed, anything that shocked the moral sentiments proper to a schoolboy, and he distinctly recognised the influence of that company on his mind and character as one of the formative influences that had not been for harm, but for good. Apparently there was a healthier moral taste in the middle and lower classes of this community than in the upper, whose moral standard was half conventional. He noticed that the worst type of plays in London appeared during "the season." He believed those enacted during the winter, which were mainly attended by the middle classes, were, from the moral point of view, healthier entertainments than those presented to more fashionable audiences. He could not accept Mr. Statham's view that the play should always represent life as it is. On the other hand, it was from the fact that they did not preach that Shakspeare's plays derived their moral power. Some sort of censorship of the stage seemed to be a social necessity, but he did not know that the present censorship was always exercised with the utmost wisdom or in the exact direction he would prefer.

* By Mr. Hermann Vezin, read in the Art Section, Manchester Congress.

New Theatre, Geneva.—The new theatre, built at a cost of 5,000,000*f.* from the proceeds of the Brunswick legacy, was opened on the 2nd, with the performance of "William Tell."

A NEW PHASE OF THE QUESTION OF ARCHITECTURAL RESTORATION.*

The religious movement started in England forty years ago, though splendidly evangelical, and characterised throughout by high fervour and fine feeling, appears to us now, after this lapse of time and change of circumstance, to have brought into play a number of influences that acted very hurtfully upon the ecclesiastical art that went before it and lived with it. That art was the art of our forefathers who wrought for the temple, not the mart: who did whatsoever thing they did for the praise of achievement or the expression of religious feeling; and it might have been expected that from a movement whose deepest meaning implied a return to old-time forms of faith should come the nurture and advancement, not degradation and extinction, of the only reliable monuments of mediæval life. But it is impossible to consider the grounds of that departure from the broad lines of belief without acknowledging that though it gave to our Church first of all in our century a passion and a purpose, it was catholic only in its creed, and came unattended by any true knowledge of or love for the art of the past. Indeed, it was then, least of all, easy to convince men that in those pieces of ancient days by which they were surrounded, and in which the living past of their nation had written its enduring history, they had a real, a solid possession. Art, in those days of catholic revival, took no abiding-place side by side with Religion as a kindred and sister spirit, nor yet as a helpmeet and handmaiden; or, if it did, it was but the art of childish frippery which the lesser guardians of religion accumulated about it and within it, and which, I make bold to say, will one day, without injury to the essential thing in it, be swept out of it, once and for ever. The cathedral as the foremost limit of ecclesiastical government was brought then into the active life of the church; but the effort to accommodate its chapels and aisles to the uses of the guilds and brotherhoods for whom they were in the early days designed was, at first and in the main still is, unattended by any reverence for the inheritance they contained in history and art. That history and that art, though priceless to us now as relics of that past which is or should yet be alive with us, and a part of us, was never then set over against the needs of evangelical organisation. Where the preservation of an ancient work that was a genuine piece of art was inconsistent with the principles of use, or appeared to be so, the principle of preservation had to give way.

Truly it was a hard saying, and few could bear it, that religion and art were one in aim and end, even as the past and present were one in life and purpose, and that the art of yesterday could not be desecrated without injury to the religion of to-day. And shall we not say, who look out over the ruin of so much that gave the old craftsmen joy in the thought of being remembered, that such desecration has been complete? Forty years in England have seen buildings of inestimable beauty and historical value robbed of all their history and well-nigh all their beauty. Almost every art monument about which men would think it worth while to contend has fallen beneath the "restorer's" chisel and the "restorer's" pick. Already the day is with us and is far spent when we see, with tears in our eyes, that so far as it has lain within our reach to do so we have despoiled our country of much that its monuments contained of sweetness of outline and tenderness of colour; have stripped our England of much that made it in special sense *our* England,—the England we love,—the England of English art and history.

And all this indifference to the art of our forefathers was at the beginning and still is due to a wholly false sense of our relation to the past. But day by day it is coming to us to see that the past is not buried by us or to us, and that we cannot afford to regard its thought and feeling as we contemplate the masquerade or carnival, which, though interesting and curious to study, is foreign to our habits and alien to our sympathies. The past is, indeed, not a dead thing to us which we may bury out of our sight as we bury the dead, dry blossom of the tree when the fruit comes, saying "Where would be the flower's place could it continue?" The past is alive with us and a part of our growth; we breathe its breath as well as our own; and thus it asks from us as careful treatment of the relics it leaves in its trace as we accord to the creations of our own day. Nay more, for, unlike the art-treasures of the present, the relics of the past are an inheritance we receive from the hands of those who wrought them and Time together.

And if for the rest it be objected that this is a new way of regarding our possession in the past, and that our forefathers did not act towards the art-works of their ancestors as we would have men act towards those which we inherit from them, I answer it is indeed new, and that it is well for our age that it, of all others, has at last alighted upon this heightened way of looking at whatsoever work of an enduring kind has gone before it. Our forefathers who erased the history that lay written in the monuments they restored were able to leave history in the gap, and so to enrich where they altered; but we, because endowed with no style peculiar to our age, or because compelled to revive in modern days the dead false image of an Early English or Norman style, can only falsify and dishonour where we touch. Shall we not say, then, it is a good thing that even after the ruin of so much that was beautiful in all art,—and that is, in all life,—we, at least, of all Englishmen, should awake to see the untouched and untouchable sanctity that lies enshrined in a work of ancient days, wrought for the passion of pursuit, and alive with the spirit of the deeds done in the days of its own doing? Shall we not further say that to labour for the staying of the desecration and final extinction of those records in stone, by which we know in what fashion our fathers lived and moved and thought and talked, and in how far they were men swayed by like passions with ourselves, is so good a work that we know no gratitude deeper than that we owe to its pioneers? And if it be asked me to say who were those pioneers, can I hesitate in reply? I have spoken of our attitude to our possession in the past as a thing altogether new, and I add that it is the clear outcome of the altered spirit infused into English life through the poetry of Tennyson and Morris and the painting of Rossetti and Burne-Jones. Here are artists who by sheer skill of manipulation would surely have done honour in their works to any age or country, but who, above all excellence of technique, have this one thing to distinguish them: that first of all in the days of English art they have taught men that to reverence the past is the only true way to lay hold of the present. Whilst in unalterable harmony with the spirit of their own age, and knowing well whither it is tending, they have set up such a picture of Mediæval life as is not dead to our sympathies, but alive with a new life,—its own name and ours,—and thus they have taught us to be happy (as Mr. Morris himself puts it), not in the enjoyment of the small corner of art peculiar to our own day, and doomed, it may be, to a speedy end, but in the possession of all art past and present, and in which the whole world may have its share. And so, as I say, it is a new thing that, as the outcome of all this personal interest in the past, we should look with other eyes on the monuments of patient bygone design. Ours is now, I verily believe, a view of the past, and of our right in it, that will one day infallibly triumph. The persons are very few who fail to see that those pieces of the art of our forefathers by which we are surrounded, because valuable to study and firing to enthusiasm, should be saved from falsification and forgery. The persons are few, and, because deaf to æsthetic pleas, must be left to the slow but certain educating influences of time.

I ask your pardon for touching in this way upon a question involving so many issues, but I have done so because it has appeared needful to accentuate our altered attitude to the past in order that we might return with warmer sympathy to the one practical difficulty which at this stage of the movement remains to us; that is, how best to give effect to our desire that such of our ancient buildings as are still unimpaired may be saved from desecration and extinction at the hands of the mistaken, the irreverent, and the vulgar? When an ancient church, which is the property of the nation, is threatened with restoration, our process of protest is twofold. First, we appeal on moral grounds to the guardians of the fabric, showing in what measure the contemplated changes may be subversive of our interests in history and art; next, we have recourse to whatsoever legal rights the people of the parish in which it stands may possess, to save it from the rapacity of those who would rob it of its identity as a record. Now, I ask you to traverse with me a few general considerations going to show to what extent the first of these two forms of protest is of any genuine avail; and further, in what manner we may bring about such an amendment of the law as will enlarge the sphere of the second, or supersede it with a better.

When, in 1877, a few gentlemen in London joined hands in an endeavour to form such a body as should serve as a distinct rallying-point for the genuine feeling that lay, little expressed, wherever there were art-treasures to despoil, they recognised at the onset the inevitable limitations of their scheme. Their work had to be negative rather than positive. They could ask no direct help from law, which might see its possession in the money interest, but not in the art that attached to the ancient churches of the nation. The main business of the Society for the Protection of Ancient Buildings, and that undoubtedly a very useful one, was to rouse public opinion to the loss we were sustaining in the demolition of buildings rich in memories, and sacred, therefore, as precious, indeed priceless, heirlooms, many of them beautiful as well as valuable, and such as we were never likely to produce again. Beyond these lines the work of the society could not go, but because, limited though they were, they embraced many methods of operation, I shall ask you to follow me whilst, as an humble officer of the society, and one who claims to know something of its plan of procedure, I detail the stages of its action.

First of all, upon receiving information of a contemplated restoration, the society requires from the correspondent it has appointed for the district in which the building stands, a finished tabular statement, giving a complete description of the fabric and its points of architectural, archæological, and antiquarian interest, and setting forth the kind and extent of the proposed changes. The working committee then considers the case in question, not merely on the broad enounced tests of the society, but upon its own individual merits. Sometimes the committee feels that it can afford to pass the matter by with a smile, in the assurance that no harm is meant to be done; sometimes the destruction entailed appears so limited, and the necessity for some preservative work so urgent, that it is found hard to decide how far the proposed restoration is justifiable; and sometimes the wanton desire for change, veiled under no artistic pretence, and the outcome of what has been fitly termed a "cynically-brutal" spirit of vandalism, leaves no choice to the committee but to take some action, earnestly and at once, if art is to be saved her offspring, and the very century the lasting disgrace of rapacity. In such an event as I have last instanced, the society, following the lines of the policy of Richelieu, first employs all measures to conciliate; and thereupon the secretary usually addresses to the restoration committee a temperate letter, showing wherein the society finds reason to fear that the contemplated alteration of the structure under their care will be destructive of its artistic and historical character. The reception given to this communication is sometimes very curious. In rare cases the protest of the society occasions the abandonment of the project; more frequently it is handed by the committee to the architect employed upon the work, with the result of bringing about a modification of the original obnoxious scheme; still oftener,—as in the case of the protest against the restoration of the collegiate church of Southwell Minster, and the further case of the abbey church of St. Alban,—it is summarily consigned, after the exchange of some barely civil messages, to the home of very dead letters provided by the Commissioners for the opinions of those who question their right to do what they like with what they conceive to be their own. But, failing to conciliate, the society sometimes has recourse, and that justly, to the other less amiable limb of the Cardinal's policy, which advises the use of all honest means to crush. By exciting (through the agency of the newspaper press, the dissemination of pamphlets, and the like) a very strong public feeling favourable to its principles, it retards the growth of the subscription-list, through whose strength alone the work can be undertaken. This is, perhaps, the most satisfying process of protest, because on the whole the most enduring. But where even it fails the society in the achievement of its ends, and money in abundance is forthcoming to help on a work of desecration,—

* By Mr. T. H. Hall Caine. Read at the Manchester Congress of the Social Science Association, Art Section.

started, it may be, by the strength of unwise zeal, and pursued in the teeth of all reasonable protest,—something may yet be done. The patron of the living attaching to the church may, as at Grasmere, in the case of Wordsworth's parish church, be induced to veto the project of the clergy; or the landed proprietors who retain rights in the chapels of a church, as at Ormskirk, to cast in their influence with the opposition. All this and more may be done by such a society with the happy result of ultimate success.

There is another form of protest, however, upon which I must dwell if my paper is to go for anything in the progress of this movement, —that, namely, which the people themselves make in vestry, and which there is a disposition just now to override. And here arises the inquiry, "What are the parishioners' rights in their parish church?" The days are not far distant when the omnipotence of the vestry was never for an instant questioned, whether the thing proposed to it were the removal of the canopy from the carved Jacobean pulpit, or the substitution of a stouter bell-rope. Fitting, truly, and beautiful it seemed that if, for the sake of greater convenience, or because of inherent right, or from whatsoever other cause first of all occasioned, the charge of a national church remained with the people of the parish in whose midst it was erected, the control of it should revert to them also. But day by day we are learning to our cost that ecclesiastical law, though it may impose responsibilities upon us as custodians, can grant us no rights as parishioners, and that the yearly form of asking our sanction to its transactions is a mere mockery of our impotency, and a grim farce played off on us out of the abundance of its strength. Judging by recent rulings, the vestry of the people has no legislative power which the Consistory Court of the clergy may not overrule. That court may pay a kind of regard to the views of the parishioners as manifested in their vestry meetings, but it is not bound by their resolutions. It claims the prerogative of weighing the evidence and of determining what is good for the parishioners on the whole, and in the long run better than the people can do it for themselves. It may even impose increased expense upon the parish for the maintenance of works undertaken in utter defiance of the wishes of the parishioners.

And this powerlessness of the people, and this supreme rule of the clergy, cannot but be thought subversive of our interests at this stage of our movement, when we see well whither for forty years the rule of the clergy has been tending. The injury it inflicts upon our ancient churches cannot be better illustrated than by the briefest statement of the circumstances which have attended, with, I make bold to say, abiding shame to those who have triumphed, the restoration of the parish church at Ormskirk. Archæologists will not need to be told of the features, valuable alike to art and history, which gathered about that venerable edifice; or to be reminded that in view of the ruin of very much in it that made our country the richer and the rarer by the so much the more treasure, it furnishes yet a further proof that where triumph means sacrilege and failure the touch of a reverent hand, the victory is not always to the strong nor the race to the swift. Three faculties to amend Ormskirk Church have been obtained within the past three years. The first asked for authority to take away the pews in the nave, chancel, and Bickerstaffe Chapel, and place therein new and more convenient seats; the second prayed for leave to take up the flooring of the church, and after providing for ventilation to relay the same at a lower level. No decisive opposition was made to these proposals by the parishioners, and I have merely to add with respect to them that the simple phrase of the citation relating to the altered level of the flooring was made the ground for the removal of 4 ft. deep of human remains intramurally buried over the entire body of the church. I make now no appeal to those feelings, the deepest and holiest perhaps we know, which would have us encompass with a religious awe all that pertains to the grimmest mystery of life,—death, namely, and burial. It does not fall immediately within my scheme to ask you to contemplate this ghastly spectacle, justified by no sanitary necessity, of God's house ruthlessly torn open, and thousands of bodies cast out of it of persons who grew up and passed away amid its shadows. I have a more direct and practical purpose. A further faculty was applied for to remove, amongst other things, the galleries running round the sides of the nave. Now, twice previously, the proposal to do this work had been defeated by the parishioners in vestries convened by the vicar and his wardens. In the teeth, however, of this emphatic expression of public opinion, the matter was pushed into the Consistory Court, where, after an inquiry which elicited only the more decisively the strength of feeling opposed to the project, the faculty was decreed. The people of Ormskirk indignantly thrust out the churchwardens who had favoured the application, but it is a fact that the vicar reappointed them in his own right (leaving the parishioners without churchwardens) and began the work of destruction at six o'clock the following morning. I shall not ask you to follow me through that decree, whose wonderful text, as illogical as ill-informed, I have before me as I write; but I ask you to observe the ruling,—its legality I do not question,—that the Consistory Court is not bound by the resolutions of the parishioners in vestry, and may therefore thrust upon the parish any decree whatever; and I ask you further to say what then is the mockery of consulting the people in the vestry at all if it is not a consecrated travestie on the innocent pastime known to the unwary as "heads I win, tails you lose"?

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To conclude: if the past is indeed alive with us, and a part of our growth; if it has any value for us that makes it a good thing that we should touch with reverent hands the relics it leaves in its trace, then it is a duty we owe in the present, if only in acknowledgment of our inheritance in the past, to bequeath unimpaired to the future those pieces of ancient days which are as much its property as our own. Yes, we owe it to those who come after us that they should see, as we have seen, the great works done in the days of our fathers, and in the old time before them.

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CONDITION OF DUBLIN.

Mr. Rawlinson, C.B., and Dr. M'Cabe, Local Government Board Inspector, the Commissioners appointed under Royal warrant to inquire into the sewerage and draining of Dublin and its sanitary condition, are sitting in the City-hall. In the opening of the proceedings, the Chief Commissioner stated that they were not precluded from inquiring into other causes which might affect the health of the city besides the main drainage and the state of the Liffey. He observed that there were many theories as to the causes of disease, but he had been obliged to come to the conclusion that the principal cause was some neglect in the construction and management of the houses. He hoped that the report of the Commissioners would contain such practical recommendations as would lead to a removal of the conditions under which purity of atmosphere was impossible.

At a subsequent sitting, Mr. Boyle, C.E., secretary to the Public Health Committee, was examined, and made an interesting statement as to the number and condition of the houses in Dublin. He divided them into five classes. The first class, those of a rateable value under 10*l.*, numbered 4,000; the second, over 10*l.* and under 20*l.* per annum, 6,000; the third, over 20*l.* and under 45*l.* per annum, 9,000; over 45*l.* and under 75*l.* per annum, 4,000; over 75*l.* rateable value, 962. There are 24,000 houses in the city, inhabited by 230,000 people. The average is ten persons for each house. The number of houses let in tenements extends over the first three classes, but the actual number in the third class is 400. The total number of tenement houses is 9,760. They are all drained, though some of them imperfectly. Special care has been given to their sanitary improvement, especially house drainage. There are very few that have not effective drainage. About eighty of them cover an acre, but in some instances he found 242 on an acre. The next highest number was 207. He found a considerable extent inhabited by 70,000 people, with a density of about 154 to the acre. He has been intimately connected with the sanitary condition of Dublin since the year 1866. He found at that time 1,379 houses without sanitary accommodation of any kind. Mr. Rawlinson observed that in the year 1850 he found in a town in England, with a population of 25,000, no fewer than 18,000 persons without any sanitary accommodation. Mr. Boyle further stated that the average number of persons in the tenement houses was thirteen or fourteen, but in some houses in Church-street he found no fewer than seventy-eight. He valued one house at 10*l.* a year, but it was let at 4*l.* 10*s.* a week. The committee had to close that house in consequence of its insanitary condition. They had great difficulty in changing the habits of the people, even where they provided sanitary requisites for them, but nevertheless a very decided improvement had been effected. There is no public slaughter-house at present in the city, but plans are being prepared for erecting some. He had reported strongly against cowsheds. He did not think that under the artisans' dwellings scheme they could provide rooms for that class of persons. There are 2,360 tenement houses in the city, with 30,000 people living in them, which are unfit for human habitation, and if other accommodation could be found for the people he should not hesitate to depopulate those houses. The only effect of preventing them from overcrowding would be that they would go to other places and overcrowd them. No slaughter-houses licensed before 1851 could be suppressed without compensating the owner, and most of them were in localities where they should not exist. The sanitary authority proposed to have a house-to-house inspection of the whole city by competent persons, who would detect any imperfections. He thought the causes of the high death-rate in Dublin were—first, the class of dwellings mentioned; secondly, the saturation of the soil on which they stood with organic matter, which had been going on for 150 or 200 years, and the huddling of the houses together. There were three kinds of soil on which the houses were built. First was the alluvium, which was of the worst kind; where that soil existed disease was most prevalent, and during the epidemic of cholera it was in these places of the worst type. The next soil was granite, which was also unhealthy, and the third and best was clay. He thought the crowding of houses and saturation of the soil were the greatest causes of disease.

On the 2nd inst. the principal witness ex-

A NEW PHASE OF THE QUESTION OF ARCHITECTURAL RESTORATION.*

The religious movement started in England forty years ago, though splendidly evangelical, and characterised throughout by high fervour and fine feeling, appears to us now, after this lapse of time and change of circumstance, to have brought into play a number of influences that acted very hurtfully upon the ecclesiastical art that went before it and lived with it. That art was the art of our forefathers who wrought for the temple, not the mart: who did whatsoever thing they did for the praise of achievement or the expression of religious feeling; and it might have been expected that from a movement whose deepest meaning implied a return to old-time forms of faith should come the nurture and advancement, not degradation and extinction, of the only reliable monuments of mediæval life. But it is impossible to consider the grounds of that departure from the broad lines of belief without acknowledging that though it gave to our Church first of all in our century a passion and a purpose, it was catholic only in its creed, and came unattended by any true knowledge of or love for the art of the past. Indeed, it was then, least of all, easy to convince men that in those pieces of ancient days by which they were surrounded, and in which the living past of their nation had written its enduring history, they had a real, a solid possession. Art, in those days of catholic revival, took no abiding-place side by side with Religion as a kindred and sister spirit, nor yet as a helpmeet and handmaiden; or, if it did, it was but the art of childish frippery which the lesser guardians of religion accumulated about it and within it, and which, I make bold to say, will one day, without injury to the essential thing in it, be swept out of it, once and for ever. The cathedral as the foremost limit of ecclesiastical government was brought then into the active life of the church; but the effort to accommodate its chapels and aisles to the uses of the guilds and brotherhoods for whom they were in the early days designed was, at first and in the main still is, unattended by any reverence for the inheritance they contained in history and art. That history and that art, though priceless to us now as relics of that past which is or should yet be alive with us, and a part of us, was never then set over against the needs of evangelical organisation. Where the preservation of an ancient work that was a genuine piece of art was inconsistent with the principles of use, or appeared to be so, the principle of preservation had to give way.

Truly it was a hard saying, and few could bear it, that religion and art were one in aim and end, even as the past and present were one in life and purpose, and that the art of yesterday could not be desecrated without injury to the religion of to-day. And shall we not say, who look out over the ruin of so much that gave the old craftsmen joy in the thought of being remembered, that such desecration has been complete? Forty years in England have seen buildings of inestimable beauty and historical value robbed of all their history and well-nigh all their beauty. Almost every art monument about which men would think it worth while to contend has fallen beneath the "restorer's" chisel and the "restorer's" pick. Already the day is with us and is far spent when we see, with tears in our eyes, that so far as it has lain within our reach to do so we have despoiled our country of much that its monuments contained of sweetness of outline and tenderness of colour; have stripped our England of much that made it in special sense our England,—the England we love,—the England of English art and history.

And all this indifference to the art of our forefathers was at the beginning and still is due to a wholly false sense of our relation to the past. But day by day it is coming to us to see that the past is not buried by us or to us, and that we cannot afford to regard its thought and feeling as we contemplate the masquerade or carnival, which, though interesting and curious to study, is foreign to our habits and alien to our sympathies. The past is, indeed, not a dead thing to us which we may bury out of our sight as we bury the dead, dry blossom of the tree when the fruit comes, saying "Where would be the flower's place could it continue?" The past is alive with us and a part of our growth; we breathe its breath as well as our own; and thus it asks from us as careful treatment of the relics it leaves in its trace as we accord to the creations of our own day. Nay more, for, unlike the art-treasures of the present, the relics of the past are an inheritance we receive from the hands of those who wrought them and Time together.

And if for the rest it be objected that this is a new way of regarding our possession in the past, and that our forefathers did not act towards the art-works of their ancestors as we would have men act towards those which we inherit from them, I answer it is indeed new, and that it is well for our age that it, of all others, has at last alighted upon this heightened way of looking at whatsoever work of an enduring kind has gone before it. Our forefathers who erased the history that lay written in the monuments they restored were able to leave history in the gap, and so to enrich where they altered; but we, because endowed with no style peculiar to our age, or because compelled to revive in modern days the dead false image of an Early English or Norman style, can only falsify and dishonour where we touch. Shall we not say, then, it is a good thing that even after the ruin of so much that was beautiful in all art,—and that is, in all life,—we, at least, of all Englishmen, should awake to see the untouched and untouchable sanctity that lies enshrined in a work of ancient days, wrought for the passion of pursuit, and alive with the spirit of the deeds done in the days of its own doing? Shall we not further say that to labour for the staying of the desecration and final extinction of those records in stone, by which we know in what fashion our fathers lived and moved and thought and talked, and in how far they were men swayed by like passions with ourselves, is so good a work that we know no gratitude deeper than that we owe to its pioneers? And if it be asked me to say who were those pioneers, can I hesitate in reply? I have spoken of our attitude to our possession in the past as a thing altogether new, and I add that it is the clear outcome of the altered spirit infused into English life through the poetry of Tennyson and Morris and the painting of Rossetti and Burne-Jones. Here are artists who by sheer skill of manipulation would surely have done honour in their works to any age or country, but who, above all excellence of technique, have this one thing to distinguish them: that first of all in the days of English art they have taught men that to reverence the past is the only true way to lay hold of the present. Whilst in unalterable harmony with the spirit of their own age, and knowing well whither it is tending, they have set up such a picture of Mediæval life as is not dead to our sympathies, but alive with a new life,—its own name and ours,—and thus they have taught us to be happy (as Mr. Morris himself puts it), not in the enjoyment of the small corner of art peculiar to our own day, and doomed, it may be, to a speedy end, but in the possession of all art past and present, and in which the whole world may have its share. And so, as I say, it is a new thing that, as the outcome of all this personal interest in the past, we should look with other eyes on the monuments of patient bygone design. Ours is now, I verily believe, a view of the past, and of our right in it, that will one day infallibly triumph. The persons are very few who fail to see that those pieces of the art of our forefathers by which we are surrounded, because valuable to study and firing to enthusiasm, should be saved from falsification and forgery. The persons are few, and, because deaf to æsthetic pleas, must be left to the slow but certain educating influences of time.

I ask your pardon for touching in this way upon a question involving so many issues, but I have done so because it has appeared needful to accentuate our altered attitude to the past in order that we might return with warmer sympathy to the one practical difficulty which at this stage of the movement remains to us; that is, how best to give effect to our desire that such of our ancient buildings as are still unimpaired may be saved from desecration and extinction at the hands of the mistaken, the irreverent, and the vulgar? When an ancient church, which is the property of the nation, is threatened with restoration, our process of protest is twofold. First, we appeal on moral grounds to the guardians of the fabric, showing in what measure the contemplated changes may be subversive of our interests in history and art; next, we have recourse to whatsoever legal rights the people of the parish in which it stands may possess, to save it from the rapacity of those who would rob it of its identity as a record. Now, I ask you to traverse with me a few general considerations going to show to what extent the first of these two forms of protest is of any genuine avail; and further, in what manner we may bring about such an amendment of the law as will enlarge the sphere of the second, or supersede it with a better.

When, in 1877, a few gentlemen in London joined hands in an endeavour to form such a body as should serve as a distinct rallying-point for the genuine feeling that lay, little expressed, wherever there were art-treasures to despoil, they recognised at the onset the inevitable limitations of their scheme. Their work had to be negative rather than positive. They could ask no direct help from law, which might see its possession in the money interest, but not in the art that attached to the ancient churches of the nation. The main business of the Society for the Protection of Ancient Buildings, and that undoubtedly a very useful one, was to rouse public opinion to the loss we were sustaining in the demolition of buildings rich in memories, and sacred, therefore, as precious, indeed priceless, heirlooms, many of them beautiful as well as valuable, and such as we were never likely to produce again. Beyond these lines the work of the society could not go, but because, limited though they were, they embraced many methods of operation, I shall ask you to follow me whilst, as an humble officer of the society, and one who claims to know something of its plan of procedure, I detail the stages of its action.

First of all, upon receiving information of a contemplated restoration, the society requires from the correspondent it has appointed for the district in which the building stands, a finished tabular statement, giving a complete description of the fabric and its points of architectural, archæological, and antiquarian interest, and setting forth the kind and extent of the proposed changes. The working committee then considers the case in question, not merely on the broad enounced tests of the society, but upon its own individual merits. Sometimes the committee feels that it can afford to pass the matter by with a smile, in the assurance that no harm is meant to be done; sometimes the destruction entailed appears so limited, and the necessity for some preservative work so urgent, that it is found hard to decide how far the proposed restoration is justifiable; and sometimes the wanton desire for change, veiled under no artistic pretence, and the outcome of what has been fitly termed a "cynically-brutal" spirit of vandalism, leaves no choice to the committee but to take some action, earnestly and at once, if art is to be saved her offspring, and the very century the lasting disgrace of rapacity. In such an event as I have last instanced, the society, following the lines of the policy of Richelieu, first employs all measures to conciliate; and thereupon the secretary usually addresses to the restoration committee a temperate letter, showing wherein the society finds reason to fear that the contemplated alteration of the structure under their care will be destructive of its artistic and historical character. The reception given to this communication is sometimes very curious. In rare cases the protest of the society occasions the abandonment of the project; more frequently it is handed by the committee to the architect employed upon the work, with the result of bringing about a modification of the original obnoxious scheme; still oftener,—as in the case of the protest against the restoration of the collegiate church of Southwell Minster, and the further case of the abbey church of St. Alban,—it is summarily consigned, after the exchange of some barely civil messages, to the home of very dead letters provided by the Commissioners for the opinions of those who question their right to do what they like with what they conceive to be their own. But, failing to conciliate, the society sometimes has recourse, and that justly, to the other less amiable limb of the Cardinal's policy, which advises the use of all honest means to crush. By exciting (through the agency of the newspaper press, the dissemination of pamphlets, and the like) a very strong public feeling favourable to its principles, it retards the growth of the subscription-list, through whose strength alone the work can be undertaken. This is, perhaps, the most satisfying process of protest, because on the whole the most enduring. But where even it fails the society in the achievement of its ends, and money in abundance is forthcoming to help on a work of desecration,—

* By Mr. T. H. Hall Caine. Read at the Manchester Congress of the Social Science Association, Art Section.

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CONDITION OF DUBLIN.

Mr. Rawlinson, C.B., and Dr. M'Cabe, Local Government Board Inspector, the Commissioners appointed under Royal warrant to inquire into the sewerage and draining of Dublin and its sanitary condition, are sitting in the City-hall. In the opening of the proceedings, the Chief Commissioner stated that they were not precluded from inquiring into other causes which might affect the health of the city besides the main drainage and the state of the Liffey. He observed that there were many theories as to the causes of disease, but he had been obliged to come to the conclusion that the principal cause was some neglect in the construction and management of the houses. He hoped that the report of the Commissioners would contain such practical recommendations as would lead to a removal of the conditions under which purity of atmosphere was impossible.

At a subsequent sitting, Mr. Boyle, C.E., secretary to the Public Health Committee, was examined, and made an interesting statement as to the number and condition of the houses in Dublin. He divided them into five classes. The first class, those of a rateable value under 10*l.*, numbered 4,000; the second, over 10*l.* and under 20*l.* per annum, 6,000; the third, over 20*l.* and under 45*l.* per annum, 9,000; over 45*l.* and under 75*l.* per annum, 4,000; over 75*l.* rateable value, 962. There are 24,000 houses in the city, inhabited by 230,000 people. The average is ten persons for each house. The number of houses let in tenements extends over the first three classes, but the actual number in the third class is 400. The total number of tenement houses is 9,760. They are all drained, though some of them imperfectly. Special care has been given to their sanitary improvement, especially house drainage. There are very few that have not effective drainage. About eighty of them cover an acre, but in some instances he found 242 on an acre. The next highest number was 207. He found a considerable extent inhabited by 70,000 people, with a density of about 154 to the acre. He has been intimately connected with the sanitary condition of Dublin since the year 1866. He found at that time 1,379 houses without sanitary accommodation of any kind. Mr. Rawlinson observed that in the year 1850 he found in a town in England, with a population of 25,000, no fewer than 18,000 persons without any sanitary accommodation. Mr. Boyle further stated that the average number of persons in the tenement houses was thirteen or fourteen, but in some houses in Church-street he found no fewer than seventy-eight. He valued one house at 10*l.* a year, but it was let at 4*l.* 10*s.* a week. The committee had to close that house in consequence of its insanitary condition. They had great difficulty in changing the habits of the people, even where they provided sanitary requisites for them, but nevertheless a very decided improvement had been effected. There is no public slaughter-house at present in the city, but plans are being prepared for erecting some. He had reported strongly against cowsheds. He did not think that under the artisans' dwellings scheme they could provide rooms for that class of persons. There are 2,360 tenement houses in the city, with 30,000 people living in them, which are unfit for human habitation, and if other accommodation could be found for the people he should not hesitate to depopulate those houses. The only effect of preventing them from overcrowding would be that they would go to other places and overcrowd them. No slaughter-houses licensed before 1851 could be suppressed without compensating the owner, and most of them were in localities where they should not exist. The sanitary authority proposed to have a house-to-house inspection of the whole city by competent persons, who would detect any imperfections. He thought the causes of the high death-rate in Dublin were—first, the class of dwellings mentioned; secondly, the saturation of the soil on which they stood with organic matter, which had been going on for 150 or 200 years, and the huddling of the houses together. There were three kinds of soil on which the houses were built. First was the alluvium, which was of the worst kind; where that soil existed disease was most prevalent, and during the epidemic of cholera it was in these places of the worst type. The next soil was granite, which was also unhealthy, and the third and best was clay. He thought the crowding of houses and saturation of the soil were the greatest causes of disease.

On the 2nd inst. the principal witness ex-

amined was Dr. Grimshaw, the Registrar-General. He gave details of the death-rate, noticing the excessive mortality of children, and the fact that the general mortality was greater within what was called the healthy ages,—between thirty-five and fifty-five,—and less in the more unhealthy ages. It was not excessive from diarrhœa or from zymotic diseases. There had not been much typhus fever in Dublin, but a good deal of typhoid. He did not think that the excess of mortality in Dublin was due to the number of persons who came from the country for medical advice because of the extensive medical school in the city, as he believed that in many cases they were cured, and in cases where the cure was hopeless they returned to the country to die, as people did not like to die in a strange place. He assigned among the causes for disease the accumulation of refuse, bad scavenging of the streets, and the existence of slaughterhouses and manure-yards. After the introduction of the Vartry water the mortality for two years was less, but was now higher than before. Mr. Boyle, secretary of the Public Health Committee, was further examined, and recommended that the corporation should take charge of domestic scavenging, and that a separate charge should be made for it in each case according to a certain scale. Mr. Rawlinson disapproved the recommendation, and suggested that, as regards scavenging, the Local Government Board in England, though at first reluctant to do so, agreed to lend money for the supply of the necessary plans and appliances for carrying on the work, which was a great advantage to corporate bodies. Mr. Boyle was directed to bring the suggestion under the notice of the Local Government Board of Ireland. The appointment of a police magistrate to take charge of sanitary cases only was also strongly urged.

THE NEW ROYAL LUNATIC ASYLUM, DUNDEE.

The directors of the Dundee Royal Lunatic Asylum have for several years past greatly felt the necessity of providing additional accommodation, and as the present asylum at the top of Albert-street was being rapidly surrounded by dwelling-houses and other erections, they saw it would be impossible to further extend their present buildings, and accordingly looked out for a site which would be suitable in every respect for new buildings. In 1875 the directors acquired the farm of Westgreen, on the Invergowrie Estate, which extends to 78 acres, for the site of the new asylum. They subsequently purchased 17 acres of the adjoining farm of Whitelawston. The whole extent of ground acquired thus amounts to 95 acres. The site of the new asylum is situated near Liff, and commands a fine prospect of the river Tay and the surrounding country. In due course, Messrs. Edward & Robertson, architects, Dundee, were entrusted with the work of preparing the plans of the buildings, and these have met with the approval of the Lunacy Board. According to the *Dundee Courier's* description of the plans, the southern portion of the ground will be reserved for agricultural purposes, the asylum buildings being situated on the north. Accesses are provided to the institution from the Liff and Invergowrie-road on the west, and from the Liff and Dundee-road on the north. The institution consists of two main buildings, one being for pauper and the other for private patients. Both the buildings are to be in the Scotch Baronial style. The largest building, which is for pauper patients, is situated on the west portion of the ground, and has its entrance from the north, but the line of frontage faces the south. It consists of two stories, each story being 13 ft. in height. Immediately after entering the building the visitor comes upon the vestibule and corridor, the latter being 9 ft. wide. Facing the vestibule is the grocer's store, while on the west side of the corridor are a medical consulting-room and a dispensary, and on the east side are the porter's room and waiting-room. Passages lead from the corridor to the main part of the building, and adjoining these passages are the bath-rooms, stores, servants' accommodation, kitchen, and scullery. In the centre of the front of the building is a spacious dining-hall, 85 ft. by 54 ft., and 20 ft. in height. From the dining-hall corridors run east and west, the apartments on the west part of the building being for males, and those on the east part being for females. Adjoining these corridors are single rooms and day-rooms, lavatories being provided in buildings abutting. At either end of the main building are wings running north and south. The wing on the south side will be used as an infirmary, while that on the north side will be set apart for refractory patients. To the north of each of the wings will be detached buildings. Those on the side occupied by the male patients will be used as tradesmen's workshops, while on the side occupied by the females will be a laundry, washinghouse, &c. On the latter side are the furnaces and boilers for supplying the whole building with hot water and steam, and a pipe will convey the steam to the scullery, where all the meat is to be cooked by steam. To the east of the washing-house and laundry, apartments are provided for patients capable of washing, &c. In rear of the rooms on each side of the dining-hall is a large court, where the patients of each sex will take exercise. The first floor is reached by two staircases on either side. On this floor, above the dining-hall is an amusement-room, of about the same dimensions as the hall. The accommodation on the east and west sides of the amusement-hall is the same as on the ground floor, with the exception that the rooms over the day-rooms are used as dormitories. The portion over the entrance is used as a store-room, matron's rooms, and house servants' apartments. The building for the pauper patients has a frontage of about 600 ft., while the end wings have a frontage of about 300 ft. The front elevation has ten crow-stepped gables. Over the centre part of the frontage are corbelled turrets, which are surmounted by a *flèche* rising to a height of nearly 100 ft. The staircases on either side are carried up in the form of towers, being also surmounted by turrets. In front of the single rooms are verandahs, in which the patients may enjoy themselves in wet weather. The number of patients that can be accommodated in the pauper asylum is 300,—140 males and 160 females.

The private asylum, which consists of three stories, each 13 ft. in height, is situated on the east portion of the ground, and to the east of the main building. This building has also its main entrance from the north. On the ground floor are apartments for males and females, those for the males being on the west side, and those for the females being on the east. On the female side of the house is provided dining-room, drawing-room, and work-room accommodation, and on the male side there are a reading and writing room, dining-room, and billiard-room. In this building is an assembly-room, or theatre, 54 ft. by 30 ft., and having a small gallery at the east end. The whole of the first and second floor are used as single rooms and bedrooms. In the centre of the front building there is also a tower, having five stories, and rising to a height of nearly 100 ft. The corners of the tower are surmounted by corbelled turrets, and at each end is a gablet, ornamented and having turrets. Seventy patients can be accommodated in this building, so that the new asylum will provide accommodation for 870 patients. Single-room accommodation is provided for about 40 per cent. of all the patients.

The chapel is situated in the north-west corner of the ground. It is built in the Gothic style, and has an entrance facing the east. Over the entrance is a four-light traceried window, and there is also a belfry. The chapel consists of nave, two aisles, and apse, the aisles being separated from the nave by arcades of three bays. The chapel is 33 ft. in height, and will accommodate between 300 and 400 people. The medical superintendent's house is situated to the south and east of the buildings.

At present only the pauper asylum and one of the lodges are being built, the estimated cost of which is 42,000*l*. When the whole plans have been carried out the total cost will be about 60,000*l*.

The mason work of the building now being erected is almost completed, and it is expected that in the course of twelve months the establishment will be opened.

The contractors are,—Messrs. Mann & Myles, masons; Gauld & Laburn, slaters; David Brown, plumber; J. & W. Kines, gasfitters; Garvie & Farquharson, joiners; J. & W. Martin, plasterers; Thomson, Son, & Co., ironfounders; John Bryden, bellhanger. Mr. John Haggart is clerk of works.

The foundation-stone was laid with Masonic honours on the 17th of September by Lord Ramsay, Right Worshipful Grand Master of the Provincial Grand Lodge of Forfar.

STAINED GLASS IN EXETER CATHEDRAL.

At the last annual meeting of the Exeter Diocesan Architectural Society,

Mr. F. Drake read a paper on "The Ancient Stained Glass in Exeter Cathedral," which was illustrated by a large number of drawings and paintings. Mr. Drake first referred to the works of the late Mr. Charles Winston. He then observed that it was his intention to take his hearers first to the clearstory windows of the choir, then descend to the choir-aisle windows, and finally take a somewhat hurried look at the great east window. He thought that there could be little doubt that the clearstory windows of the choir were filled with glass of a uniform design,—figures beneath canopies and with tracery of a pattern. The beautiful effect of such treatment might be imperfectly judged from the remaining window, although it had suffered severely from the ignorant over-attention of centuries of glaziers. The ground-work to the figures and canopies of all those windows had interlaced geometrical bands running over oak, ivy, &c. The windows west of the transepts were glazed at a later period, and enriched with the most beautiful specimens of the art immediately following upon the discovery of yellow stain. Two pieces only remained *in situ*. All the glories of figures, and canopies, and subjects, inscriptions, &c., were gone, yet portions were left which helped to form an idea as to the glazing. One of the two pieces remaining was identical with that of Temple Rothley, Leicester, so that the date of the glazing of the nave clearstory would be the early part of the reign of Edward IV. In the choir-aisle windows there were six pairs, alike so far as the pattern of the stonework was concerned, having bold borders. Much of the tracery of those beautiful pattern windows remained, but the lights, alas! were cut up into a kind of sausage pattern. The ancient glass in the chapels of St. Gabriel and St. Mary Magdalen remained, so far as the north of the one and the south of the other were concerned. It was removed into the east windows, but, so far as regarded St. Gabriel's Chapel, it had been his privilege to put the glass back into its place. The grand east window received new stonework in the Perpendicular style of architecture in 1390. At that time the glass of the earlier window was altered by one Lyon, of Exeter, to suit the new circumstances, and the best thanks of the city were due to Lyon for the satisfactory manner in which he did the work. The change resulted in the erection of a nine-light in the place of a six-light window. The early glass was placed in the six outer lights, and to make up the deficiency in length, dwarf canopies were placed beneath the figures and coats of arms emblazoned thereunder. Besides the six outer figures there was much of the tracery-glass of an early character. The window suffered much in an attempted restoration in 1751. Heads of the true Georgian type were put upon the figures, and the canopies were much tampered with. The shields of arms in the tracery did not belong to the window. It was probable that in the general rummaging of old gear in 1751, when between 300 ft. and 400 ft. of stained glass was taken out of the chapter-house to be "worked up" in repairing existing windows, those shields were amongst it. The windows of both clearstory and choir aisle were of one character, executed upon one general plan, and were subordinated to the beauty of the building and the delicacy of the window tracery. There did not appear to have been the least attempt on the part of the architect to produce great effects of colour, but, on the contrary, all he seemed to have desired was toning and mellowing of the light which poured in floods upon the beauties of his glorious building. In conclusion, Mr. Drake alluded to the severe loss the cathedral had sustained in the death of Archdeacon Freeman, at whose suggestion this examination was made. The immediate fruit of his interest in this part of the fabric was found in the side windows of the lady-chapel to the memory of Bishop Phillpotts. Had the archdeacon lived, the poor skeleton of a clearstory window, still, Mr. Drake hoped, reposing in the chamber behind the Minstrels' Gallery, would ere this have been restored to its old beauty and its old place, and the glorious old east window would be far on its way to restoration—a consummation dear to his heart and having the full and hearty concurrence of Sir Gilbert Scott.

UNIVERSITY COLLEGE, BRISTOL.

ENGINEERING.

University College, Bristol, will shortly commence its fourth session. The calendar, which is before us, states that there were 448 students in the college in the second session; and in the third, 576, of whom 355 were men and 221 women: 172 came in the daytime, and 404 in the evening. Good progress is being made by the Engineering Department, which is designed to afford a thorough scientific education for students intending to become mechanical or civil engineers, surveyors or architects. The course for engineering is such that students can pursue it during the six winter months of each year, and the Council of the College have arranged with the leading civil and manufacturing engineers in the neighbourhood to receive in their offices and workshops during the summer months students whose position relatively to the firms would be that of articled pupils. Many of the recent developments in the scheme of instruction in the College are designed to meet the wants of this department. Professor Main will this year be assisted by Mr. H. S. H. Shaw, M.I.M.E., in giving the courses on engineering. Mr. Shaw has been a student of the College since its first opening, and, after a long course of success, was first by more than 1,000 marks in the final competition of Whitworth scholars in their fourth year, recently held, thus securing the chief prizes, amounting to 300*l*.

In the ordinary course on chemistry and in the laboratory care is taken to explain the chemical composition and properties of the more important materials employed in construction, the effects of the atmosphere on them, and the chemical principles involved in sewerage and ventilation.

THE DUNDEE "BUFFET."

The "Buffet," a handsome restaurant, has just been opened in Dundee. It was projected by Mr. Rickard, the proprietor of the Royal British Hotel. The work has been carried out from the designs and under the superintendence of Mr. George S. Aitken, architect.

The entrance to the principal room is in the form of a circular porch of polished oak; the lower portion of which is inlaid with brass *repoussé* panels, the upper glazed with leaded work, and the floor laid with encaustic tiles. The room to which this gives access has on the right a buffet and counter, and to the left a series of boxes; at the extreme end is a projecting fireplace with recessed seats, and adjoining this the service kitchen, communicating with the hotel kitchen by a lift. All the fittings are of polished oak.

The buffet is in two stages, the lower having panelled doors with marble top; the upper a continuous series of mirrors, with decorated panels at intervals; the centre and ends are formed of shafted canopies with German and Fulham pottery in the gablet recesses; the intermediate portions are finished with balustraded parapets. The counter has a marble top, with carved panelled oak front and massive dividing shafts. The boxes are formed of oak framing with balustraded divisions and bench-ends. The seats are upholstered in crimson velvet, the tables being of marble with specially-designed cast-iron stands. Above the seats are continuous mirrors, with decorated panels between and brackets for quaint pottery and plants. On this side is a specially-designed clockcase. The end wall of the room, in which is situated the fireplace, is similarly treated with mirrors and decorated panels.

The fireplace is of oak, projecting 4 ft. from the wall, supported on shafts carrying cornice and sloping roof,—on this roof are German vases. Settles are arranged at each side. The jambs are of Victoria red marble, the ingoings majolica tiles, and the dog-grate bronze and iron.

The service kitchen adjoining is enclosed by oak panelling, and contains steam cooking-apparatus, hot and cold water appliances, and communicates with the hotel coffee-room and kitchen by a lift. At the end of the kitchen, and entering out of the restaurant, is a smoking-room, the walls and ceilings finished in Keene's cement, and the flooring of French tiles. The light of this room is procured on the one side from an embossed plate window to the exterior, and on the other from a glazed screen of tinted rolled plate with painted subjects thereon. The ceiling of the restaurant is panelled with wood mouldings, with a decorated ground-work. The windows have screens of leaded work with subjects in colour appropriate to the place. Artificial lighting is provided by two pendants of combined cut glass and polished brass in the centre, and ten corresponding wall-brackets at the sides and ends.

SWANSEA.

Artisans' Dwellings. — Important improvements have been carried out in this town under the Artisans' Dwellings Act, 1875, and some notorious dens of prostitution and vice are now in course of removal. At a recent special meeting of the Town Council the subject was discussed, and the following resolution adopted *nem. dis.*:—"That the common seal be affixed to a receipt for the sum of 61,546*l*., being the remainder of a sum of 76,546*l*. some time since agreed to be advanced by the Public Works Loan Commissioners, for carrying into execution the improvement scheme framed under the provisions of the Artisans and Labourers' Dwellings Improvement Act, 1875; and also to a certificate authorising the payment of the above sum to the borough treasurer, or his order."

A new church has been erected at Llansamlet, near Swansea, and was consecrated on Monday. It is built of local stone, in the Early English Gothic style, and has cost 6,500*l*. The length of the nave is 80 ft.; the width, 24 ft.; and the height of the ridge, 47 ft.; the chancel measures 35 ft. by 24 ft., and is 24 ft. high; and the dimensions of the vestry are 26 ft. by 13 ft. The clearstory windows have circular lights, trefoil, quatrefoil, and sexfoil, surrounded by label mouldings. The east window measures 22 ft. by 12 ft., and contains ornamental tracery, and there is a three-light window at the west end, 18 ft. by 9 ft. The roof, which is of circular form, is of pitch-pine, stained and varnished, with match-board covering; and the arches are supported by massive pillars of Bath stone. Ultimately a tower is to be built. The architect was Mr. Clarke, of Briton Ferry.

RE "SCHOOL OF ART WOOD-CARVING."

Sir,—I can but think that the letter of "Meter" in your recent issue (p. 1089) should not be allowed to pass unnoticed, as it is calculated in my estimation to place the matter before the public in an entirely false light. "Meter" describes the school as a "jejune scheme put forward in the semblance of reform," in answer to which allow me to state that the promoters of the School of Art Wood-carving deservedly have the name for being eminently practical men, and I therefore see little reason to doubt that their earnestness and energy, assisted by the persevering endeavours of that superior workman, Signor Bulletti, and his industrious pupils, will result in the production of some thorough artist wood-carvers. "Meter" alleges that the cause of the decline of wood-carving in this country was the introduction of "compo impressions," in place of carving, to ornament looking-glass frames, &c. Does "Meter" think that because an art has chanced to become degraded, or even extinct, it is useless to attempt its revival? Art history tells a different tale. But to practice, as I know your space is valuable. "Meter" says "the difficulty of turning art into wood is very slight." In this one point I wish heartily to concur with him; but I cannot help thinking that the difficulty of turning wood into art is quite another matter, and as our wood-carvers in England do not show any signs of becoming artists, the sooner some of our young artists turn their energies to wood-carving, the sooner shall we expect to see England regaining her former position of eminence in this beautiful art. Anselmo.

Crystal Palace.—Comte Thomas de Ragiout is still engaged in carrying out his idea of establishing, at the Crystal Palace, Sydenham, a permanent international exhibition, where visitors of every nationality would be certain of finding the choicest specimens of contemporary industry and art. The Bavarian Minister of the Interior promises to direct his attention to the enterprise; the Munich Artists' Association promises to exert all its influence on behalf of it; and the Vienna Artists' Association also undertakes to urge Austrian artists to aid the enterprise.

OPENING OF THE PICTON READING-ROOM, LIVERPOOL.

An interesting ceremony took place in Liverpool on Wednesday, when the new Public Reading-room which has been named after Mr. J. A. Picton, the chairman of the Library Committee, was formally opened. The honour paid to Mr. Picton on this occasion has an interest for our professional readers as an honour paid to one of the oldest members of the profession in England, who has given proof that a successful practising architect need not be only an architect, or confine his interest to the drawing-board, since Mr. Picton has not only been a most active and efficient member of the Liverpool Corporation, and of all committees and associations having the welfare of Liverpool in view, but has made himself known far beyond the limits of his own town as a man of much general information in literary and philological subjects. The ceremony of opening consisted of the presentation of an address on behalf of the Library Committee, and another on behalf of the Liverpool Architectural Society, who sent a large deputation, including most of their leading members, to do honour to their colleague on the occasion. The Mayor and members of the Town Council and the representatives of the architectural profession having met in a room in the adjoining Free Library building, walked in procession to the door of the new reading-room; the door was opened with a silver key, subsequently presented to Mr. Picton as a memorial of the event, and the company having entered the reading-room, where a large audience was assembled, the room was declared by the Mayor to be open, and the two addresses were read and presented. Mr. Picton replied at considerable length and with remarkable clearness and distinctness, both of voice and style, giving a few statistics as to the history of the free library movement in Liverpool, and making some appropriate and well-expressed remarks in regard to the importance of such a reading-room to the town, and the benefits that might be expected from it. Subsequently an afternoon banquet was given to Mr. Picton in St. George's Hall. There was evidently hearty feeling on the occasion, and while we congratulate Mr. Picton on this recognition by his townsfolk of his services to the town, we may at the same time express our approbation of the system of thus perpetuating the names of eminent citizens by attaching them permanently to important public buildings, a very appropriate manner of keeping up the recollection of those who have contributed to the improvement and progress of the town.

The building which has been thus opened is a circular one with a Corinthian colonnade surrounding it, and internally is domed and surrounded by a double tier of bookcases with return cases at intervals projecting towards the centre of the room; a gallery runs round to give access to the upper cases. The internal architectural treatment is very simple, and the ceiling would look better for a little coloured decoration to relieve it, which is perhaps intended ultimately. Practically the room seems admirably adapted for its purpose. It possesses, indeed, a remarkable echo, so great that hearers in some parts of the room literally heard all the speeches twice over; but as a reading-room is not for speaking in, this is not so serious a defect as it would otherwise be. Externally the appearance of the building is very agreeable and refined, and the effect of the Classic architectural detail was enhanced on this occasion by the introduction of shrubs in flower-pots between the columns and in the niches of the wall of the *cella*, with a very pretty result. The architect of the building is Mr. Sherlock, of Liverpool.

THE IRON BRIDGE.

Sir,—The centenary of many a thing less interesting than the "Iron Bridge" has been commemorated with much rejoicing; but here no notice was taken of the fact that this, the first iron bridge ever constructed (and from which this little town takes its name), was, on the 1st of September, one hundred years old. The bridge is a fine piece of construction and execution, owing to this it has suffered but little damage in the period of its existence. Perhaps in another hundred years more notice will be taken of it. C. G.

Ironbridge, Salop.

LIVERPOOL ARCHITECTURAL SOCIETY.

At the first meeting of the thirty-second session of the Liverpool Architectural Society, the President, Mr. Henry Sumners, F.R.I.B.A., delivered an address. After remarking that the position of the society, with regard to numbers and finances, was very satisfactory, Mr. Sumners proceeded to refer to a variety of subjects of interest to the profession. The prevailing commercial depression had, he said, affected architects as well as others. It was now to be hoped that a turn for the better would be felt, and that the architects, and consequently the building trades, would soon feel the benefit of the change. It was very satisfactory to learn from the papers and opinions expressed at the recent Trade Union Congress that a very much more conciliatory feeling pervaded their councils, although it was sad to find that during the year 1878 no less a sum than 260,000*l.* had been drawn from the pockets of the working-men in the payment of benefits to distressed members of trades. It was to be hoped that the working-men had learnt a lesson from the past, and would forbear to scotch the wheel of progress in its early revolutions. Mr. Sumners next referred to the question of local and national water supply, and then touched upon a variety of local building operations, remarking in this connexion that it was gratifying to find that in spite of bad times, works of an architectural character were in progress which would effect a marked improvement in the appearance of the streets. Notwithstanding that a great deal had been said in disparagement of the town in regard to its architectural features, he thought that Liverpool would favourably compare with many other towns, and if it did not in some instances, it had been the fault of those into whose hands the direction and settlement of works affecting its beauty had been placed, and not in the want of appreciation and desire of the many for such works as would benefit and improve the town. Who was to blame, for instance, for the mismanaged inutility and positively non-beautifying waste of land in the costly arrangement of the approaches to the Landing Stage; for the jumble of edifices dedicated to art, literature, and science, on sites evidently unfitted for them, and thus obviously destroying the architectural effect of each other; for the misplacing of the huge figures of men, the knowledge of whose works and teachings alone should have been a guide as to the architectural effect of their position; for the further disfigurement, in more ways than one, of the Walker Art Gallery, by the introduction of subjects so inappropriate, inartistic, and ridiculous that for the sake of art they ought to be taken down; for the miserable fountain for the west-side of St. George's Hall, remaining still in its present state of hideous disfigurement; and for the apparent inability to devote the high level to any other purpose than a monster cab-stand? Who was to be responsible for the site of the proposed cathedral? Rumour within the last few days had stated that it was to be on the land in Myrtle-street, opposite the Gymnasium, and that the premises of the Art Club were to be removed; but surely this was not true, as the site was too small. He (Mr. Sumners) suggested the consideration of a site which might be obtained on St. James's Mount by the removal of the houses and the lowering of the bank. In his opinion there was no site in the town with regard to aspect and surroundings so suitable, and it ought to be obtained for such a purpose for comparatively little cost.

Mr. J. A. Picton said that, notwithstanding all that had been said by the president, he was not afraid of bringing strangers to see in Liverpool some of the beauties of architecture, and indeed many of the works of his friend Mr. Sumners were worthy of commendation. Mr. Sumners had delivered an excellent address, and he (Mr. Picton) had very great pleasure in moving a vote of thanks to him.

Mr. Boult seconded the motion, which was cordially passed.

Duffield.—The Local Government Board have consented to the formation of Duffield into a special drainage district by the Belper Rural Sanitary Authority. The area of the proposed district comprises about 500 acres. The sewage is to be disposed of by irrigation on ten acres of land belonging to Lord Scarsdale, and the cost of the scheme is estimated at 3,000*l.* Mr. Geo. Thompson, of Derby, is the engineer.

THE TILES AT MUCHELNEY ABBEY, SOMERSETSHIRE.

Sir,—In Mr. T. Shelmerdine's illustrated and very interesting paper on this matter (see your issue of the 27th ultimo), attention is drawn to some charming old Early English tiles existing at Muchelney Abbey. In my own little collection of tiles, dating from Pompeii, A.D. 79 downwards, I have several thirteenth-century Somersetshire tiles, in two colours, of precisely the same design as those Mr. Shelmerdine has drawn us on plate p. 1,077; and in the Luttrell Chapel at Dunster Church, and again, if I mistake not, at Cleeve Abbey, hard by, there are many more similar examples.

The illustration of an elephant upon one of the tiles at Muchelney is most interesting, but it would be satisfactory to know whether Mr. Shelmerdine has good authority for assuming it to be older than the elephant carved upon one of the *misericordes* at Exeter Cathedral. The latter is amongst a series of fifty marvellously perfect oak carvings, all of them Early English, save one, perhaps, which seems somewhat later in character. At least I ought, I almost fear, to have written in the past tense as to precise numbers, and to have said there were fifty of them; for one of these singularly beautiful and unique examples of woodwork seems to have been surreptitiously removed from the cathedral within the last twelve months. The *miserere* in question were carved under the direction of Bishop Bruere, who ruled the diocese A.D. 1224-44. The Exeter elephant, unlike the Somersetshire one, is not an "elephant and castle," and, curious to relate, has the hocks of the hinder legs turned the reverse way to how they really are in nature. If the tiles at Muchelney date earlier than 1224, then the elephant thereon may claim seniority to the Exeter one, but not, I think, without.

Harry Hems.

ST. PAUL'S GARDENS; OR, THE GREAT UNWASHED.

Walk into the garden, said St. Paul's to the cits, my old and modern garden, divided off in bits: you can come a little nearer now, to view my Corinth stones; the paths are somewhat zigzag, to avoid the ancient tombs. It is a pretty garden, I said to old St. Paul's, but let our engines wash your sooty face and walls; blanched streaks and patches here and there add not to renown, we see the same on dirty boys, just where the tears run down. Ablution vigorous will give a pleasing sight, and show our sable saint washed down clean and white.* Whiteness a halo of purity lends, to beauty tends: so don't remain dirty, like your neighbour, old Thames.

R. T.

OBSTRUCTION OF LIGHT.

M'MILLAN *v.* BRASS.

In this case (in the Chancery Division, Oct. 1) the plaintiff sought to restrain the defendants, the well-known builders and contractors, from proceeding with the new Post-office Savings' Bank buildings in Knightrider-street, so as to darken his premises. In addition to the order asked to prevent the defendants proceeding further with the buildings, the Court was asked to direct that they should be reduced to the height of those formerly occupying the ground.

Mr. Locock Webb, Q.C., and Mr. Thos. Brett appeared for the plaintiff.

The Solicitor-General and Mr. Dryden, for the Post-office authorities, declined to assent to any arrangement which would have the effect of stopping the buildings; but, on the other hand, offered to undertake to pull down any part of them if the Court should so order in November next.

On that understanding the matter stood over accordingly.

DEFALCATIONS BY A BUILDER'S CLERK.

At the Wednesbury Police Court, last week, Arthur Callender (22), clerk, was charged with embezzling moneys belonging to his employer, Mr. John James Trow, builder and contractor, Wednesbury.

The prosecutor stated that the prisoner had been in his employ as a clerk until September 6th. For about two years he had been employed on a contract under the South Staffordshire Waterworks Company at Hednesford. It was part of his duty to make up the wages accounts and pay the men their wages. On September 3rd, a cheque for 25*l.* was sent to the prisoner, to pay wages. On the 6th ult. he furnished an account showing that he had paid wages amounting to 21*l.* 2s. 11d., and handed over a balance of 3*l.* 17s. 1d. In the same accounts, which should be signed by the men, he saw two names which purported to be those of J. Brindley and H. Williams.

Edwin Darby said he was a labourer, and had been employed at Sheepwash, Hednesford, during the past four months, and he had been paid at the rate of 4d. an hour, and not 4½d. He had not seen any labourers named Brindley and Williams employed, neither did he know them.

John Bradford said he was a bricklayer, employed by Mr. Trow, at Sheepwash, Hednesford, from August 19th to September 6th, and was paid at the rate of 7d. an hour, and not 7½d. Since August 19th there had only been one bricklayer at work besides himself, and also two labourers.

The Bench remanded the accused.

CHURCH-BUILDING NEWS.

Heswall.—The new parish church of Heswall, which is situated close to the Dee, and three miles from Parkgate, has been consecrated by Bishop Kelly, on behalf of the Bishop of Chester. The church, which is dedicated to St. Joseph and St. Peter, has sitting accommodation for 500 persons. It is in the Early Decorated style, and the work has been carried out to harmonise with the old tower, which is left standing. The material used is a fine red sandstone from a quarry in the neighbourhood. The chancel is laid with mosaic pavement, the work of Messrs. Rust & Co., of the Albert Embankment, London. The pulpit is of red sandstone, with serpentine columns and alabaster coping. The roof, pews, and other work are of varnished pitched pine. The general tiling of the edifice has been executed by Messrs. Craven, Dunhill, & Co., Ironbridge, Shropshire; the heating apparatus has been supplied by Messrs. J. R. Cooper, London-road, Liverpool; and the plumbing and furnishing by Mr. B. Knight, Dale-street. It is intended to erect on the east-side of the church a small chapel, but this part of the work has been deferred for want of funds. Mr. James F. Doyle, of Liverpool, was the architect; and the contractor for the whole work Mr. Hugh Yates, of Everton. The cost of the edifice is about 5,000*l.*

Sebergham, near Carlisle.—The parish church is now being restored and partly re-pewed, &c. It is of very old foundation, but has lost most of its ancient features in past re-construction. About eighty years since an ugly tower was added, and five large debased windows inserted in the south side, and a west gallery added, and flat plastered ceiling. The rough casting has been recently removed, disclosing several early lancet windows of admirable proportion, and some old doorways. Three lancet windows in the east end will be restored on the old lines; traces of these windows are still existent: they were cut away to insert the present ugly Tudor window with wooden tracery and vulgar stained glass. The architect is Mr. D. Brade, of Kendal, and the contractor Mr. Laing, of Sebergham.

Doddiscombsleigh.—The parish church of St. Michael, Doddiscombsleigh, Devon, was re-opened on the 25th ult., after restoration. The church, which is principally of the Perpendicular period, with a western embattled tower and north and south aisles, is chiefly noted for the ancient stained glass which the north aisle contains. Remains of an earlier church suggest themselves in the quaint little deeply-splayed Norman window in the tower, and there is an Early English two-light window in the north aisle. The nave and aisles are divided from each other by arcades of four bays, the stone-work being of Beer stone. The old font is a Norman one,—plain, save that it has a cable-mould worked around it. The restoration has been carried out from the designs and under the superintendence of Mr. Edward Ashworth, architect, Exeter, and the main portion of the work has been done by Mr. Thomas Diggines, builder, of Doddiscombsleigh. The carved bosses in the roof and upon the wall-plates are by Mr. Harry Hems, of Exeter. The five ancient stained-glass windows, which were in a sad state of dilapidation, have been restored gratuitously by Messrs. Clayton & Bell. The cost of the work,—which, as far as it has proceeded, has been upwards of 900*l.*,—has been undertaken by the rector, the Rev. James Buckingham, who has been aided by subscriptions from the landowners and others, including Sir Lawrence Palk, Mr. E. Byrom, Col. Walrond, Mr. A. Gibbs, and Mrs. Gibbs. Much remains to be done, namely, the re-seating the entire church, with the thorough repair of the tower and other parts of the building, the cost of which is estimated to be at least 300*l.*

Messrs. Bellman & Ivey, of Wigmore-street, have been honoured by an appointment as scagliola marble manufacturers to her Majesty the Queen.

* Fishmongers' Hall is kept clean and white.

Miscellanea.

The Moorfields Tabernacle.—Mr. T. C. Noble tells us that Mr. Coleman, of 9, Tottenham-terrace, Tottenham, has for sale a very interesting memorial of the celebrated George Whitefield,—the counterpart of the original lease to him of the Tabernacle and adjoining property, and that the deed possesses double interest from the fact of its bearing the seal and signature of "George Whitefield" himself, and a carefully-drawn plan of the property. The indenture is dated the 16th of March, 1753, and informs us that "John Brown, of the parish of St. Peter, Cornhill, Merchant," for the sum of 350*l.*, paid by "the Reverend George Whitfield, of the parish of St. Luke, Middlesex, Clerk," doth "demise, lease and to farm let" to him the said Whitfield, a certain messuage and other premises in the parish of St. Luke, "upon or near a certain piece of ground formerly known by the name of the Farthing Pie-house," having a tenement called the Barking Dogs, upon the east, the gardens, &c. of the common hunt's house on the west, and the passage, &c., leading from Windmill-hill to Hoxton on the north and south; the whole occupying an area within the dimensions of about 165 ft. south, 204 ft. north, and 88 ft. east and west, and upon a portion of the estate (as shown on the plan) is included "all that erection or building *now standing*, or being thereon commonly called or known by the name of the 'Tabernacle,' &c.; the whole being let for 43½ years, at "the yearly rent or sum of two shillings and sixpence of lawful money of Great Britain," free of taxes, &c., and subject to the usual covenants by Whitfield to repair, &c. One note is worthy of record. Throughout the body of the deed the name is spelt as three streets in London named after him are spelt,—"Whitfield," but George clearly signs himself "Whitefield."

Society of Engineers.—At a meeting of this society, held on Monday evening last, in the Society's Hall, Victoria-street, Westminster, Mr. R. P. Spice, president, in the chair, a paper was read by Mr. Thomas Andrews, on "The Strength of Wrought-iron Railway Axles." In introducing the subject, the author gave a brief historic sketch of the Wortley Ironworks, Sheffield, at which works some of the first railway axles used at the commencement of the railway system were made. He then proceeded to enumerate a series of practical experiments which he had conducted with a view of showing the great resistance which best fagotted scrap axles are capable of offering to sudden strains, and considered at some length the question of Iron *v.* Steel as a material for axles. The author strongly advocated the adoption of one uniform test for axles. It is announced that Mr. Perry F. Nursey has resigned his appointment as secretary, after many years' service, and that Mr. Graham Smith has been appointed his successor. Mr. R. P. Spice, the president of the Society, in a circular which has been issued, explains that Mr. Nursey has resigned his appointment owing to his services having been sought and obtained as editor of a scientific contemporary. Mr. Spice, in the name of the Society, says, "We feel that he is entitled to our warmest praise for his assiduous application and the ability which he has always displayed in the discharge of the duties devolving upon him, and we regret the loss of his services."

Concerts for the People.—A meeting convened by the mayor, Alderman Collings, to consider the propriety of providing cheap concerts for the people, has been held in Birmingham. The mayor, who presided, explained the scope and objects of the movement. Experience had shown that high-class music would attract and interest popular audiences, and there was reason to believe that if the prices of admission could be arranged on a scale to bring them within the reach of the artisan classes a large number of persons who were now debarred from attending really good concerts would be glad to avail themselves of the opportunity afforded them. The main idea of the scheme was cheap concerts in the Town-hall to begin with, the prices being as low as possible. A resolution approving the mayor's suggestions was adopted, and a committee formed for carrying out the scheme.

Kensington House.—Another attempt to sell this property has failed. It was put up for sale by auction on Tuesday by Messrs. Driver & Co., and bought in at 179,000*l.* The reserve price was understood to be 200,000*l.*

The Turners' Company.—On Thursday last (9th) the prizes awarded by this Company to the authors of works sent in competition were presented to the several gainers by the Lord Mayor. The awards in the *Wood* Competition were:—First prize, silver medal, freedom, and complete copy of Holtzapffel's "Turning and Mechanical Manipulation," J. G. Norris, 42, Cowper-street, City-road; second, bronze medal, three guineas, E. Hellens, 45, Stamford-road, Kingsland-road; third, first certificate of merit and three guineas, A. Foster, 66, Compton-buildings, Goswell-road; fourth, second certificate of merit and three guineas, F. Froud, jun., 48, Holly-street, Dalston; fifth, third certificate of merit and three guineas, A. Capell, 79, Milton-street, Dorset-square; sixth, three guineas, J. S. Coulson, Kirkgate, Thursk. The remaining nine prizes of two guineas each were awarded to S. Thwaites, 38, St. James's-road, Hackney; G. Garner, Carpenters' Arms, Anne's-place, Hackney-road; W. Gleeson, 119, Clifton-street, Roach, Cardiff; H. Burbage, West Orchard, Coventry; T. Macdonald, 4, Chapel-house-place, Millwall; J. Hegley, 28, Ivy-lane, Hoxton; F. Nickolay, 43, Rupert-street, Haymarket; H. Turner, 58, Whitefriars-lane, Coventry; and F. G. Holly, 28, Bolsover-street, W. In the *Stone* Competition, the prizes awarded were:—First (same as in wood competition), D. Penny, Old-street, E.C.; special, V. Albertaldi, 3, High-street, City-road; second, bronze medal and books, W. Pearse, 14A, Grosvenor-street, Westminster; third, first certificate of merit and two guineas, W. Coulman, West-hill, St. Mary Church, Torquay; fourth, second certificate of merit and one guinea, James Boden, jun., The Heights, Matlock Bath; fifth, third certificate of merit and one guinea, J. Boden, sen., marble works, Matlock Bath; and sixth, one guinea, F. S. Powell, Salterton-place, Egham.

The Forth Bridge.—The directors of the Forth Bridge Company have, the *Scotsman* understands, accepted tenders for the construction of this great engineering work. The directors invited offers from some half-dozen firms of acknowledged standing; and of the tenders submitted in compliance with this invitation, the directors decided to accept the following:—Messrs. William Arrol & Co., Dalmarnock Ironworks, Glasgow, the contractors for the Caledonian Railway Bridge over the Clyde; and Messrs. Vickers & Sons, steel manufacturers, Sheffield. With the exception of the steel chains, on which the structure is to be supported, the whole undertaking has been placed in the hands of Messrs. Arrol & Co. The steel chains are to be supplied by Messrs. Vickers & Son. It is thought that the bridge will be finished in six or seven years.

London Central District School.—The managers of this school held an extraordinary meeting at the offices, Basinghall-street, on Monday last, Mr. P. McKinlay, C.C., chairman, presiding. The House Committee, under date of September 30th, reported that Messrs. Higgs & Hill, whose tender (13,420*l.*) had been accepted for the building of certain day-rooms and probationary wards at the schools at Hanwell, had asked to be relieved from finding sureties for the fulfilment of the Tender. The committee had declined to assent to the request, and recommended the managers to approve this course. The Clerk said that since the report, Messrs. Higgs & Hill had written to say that they were willing to find sureties, and the motion having been withdrawn, the contract was signed.

New Fruit and Vegetable Market.—The *City Press* of Wednesday last states that the Markets Committee of the Corporation of London, having received proposals for the erection of a new fruit and vegetable market at Smithfield, have accepted the tender of Messrs. John Mowlem & Co., at 109,000*l.* The market is to be erected from the designs prepared in the City Architect's office, to harmonise generally with the central markets for meat, poultry, and provisions, already erected at Smithfield.

House-Building in New York.—During the eight months ending on the 31st of August there were 1,458 houses erected, at a total cost of $16,351,512, against 1,128, at a cost of $10,702,200 in the corresponding period of 1878, showing an increase of 322 houses built and $5,649,312 expenditure in favour of the present year. In the same period of 1879 there were 1,071 houses rebuilt or altered, at a cost of $2,568,616, against 943 at a cost of $2,918,147 in the parallel period of 1878.

Caution.—A man is perambulating the country calling himself a "patentee analyst," and offering recipes of colours and glazes to brick, tile, and earthenware manufacturers. Our readers, if favoured with a visit from this ingenious individual, before they part with any money, would do well to make careful inquiry if he is to be found at the address he gives.

Llanbadoc School Board, Mon.—On Thursday, the 2nd inst., the above Board held their monthly meeting at the Old Town-hall, Usk, when the plans submitted in limited competition by Mr. E. A. Lansdowne, architect, Newport, for new schools at Usk and Glascoed, were selected.

The new Theatre Bellecour, at Lyons, has cost 3,000,000*f.*, and has been built by M. Guimet (whose father made a fortune out of "washing-blue"), and some other Lyons merchants. The new theatre is somewhat in the style of Covent Garden, London. The theatre will have no permanent *troupe*, with the exception of a *corps-de-ballet*, an orchestra, and choruses.

The Dusseldorf Academy.—The inauguration of the new building of the Academy of Arts of Düsseldorf will take place on the 20th inst. The architect is Herr Hermann Riffart. A view and description of the building were given in the volume of the *Builder* for 1877, pp. 344-46.

Dumbarton Masons.—The masons employed by one or two of the largest builders in Dumbarton have started work at a reduction of ½d. per hour in their wages. The masters wanted to reduce them from 7d. per hour to 6d., and to introduce fortnightly pays; but the men struck, and afterwards agreed to take 6½d. and fortnightly pays, to which the masters assented.

The Ilkeston School Board recently invited designs from five architects for their first block of school buildings to accommodate 600 children. Of these architects they have now appointed Mr. Tait, of Leicester, conditionally on his embodying the wishes of the Board in a design not exceeding in cost 4,000*l.*

Photographic Society.—The exhibition of this Society, now open at the Water-Colour Society, Pall-mall East, well deserves a visit from those who take an interest in this art.

TENDERS

For the erection of eight dwelling-houses at Dilston-grove, Rotherhithe. Messrs. Herbert Bean & Co., architects:—

Parish	£2,300 0 0!
Castle	2,199 0 0
Tarrant & Sons	2,148 0 0
Hobbs	2,055 0 0
Marsland	2,038 0 0
Teesdale	2,020 0 0
Sharpe & Mills	1,995 0 0
Wilkins	1,927 0 0
Buttley	1,880 0 0
Lunden	1,859 0 0
Vaughan	1,840 0 0
Warr	1,795 0 0
Downs & Co.	1,790 0 0
Bullers	1,730 0 0
Winter	1,720 0 0
Almond	1,710 0 0
Stubbs	1,710 0 0
Balsam, Bros.	1,700 0 0
Etheridge	1,695 0 0
Webb	1,675 0 0
Crisp & Tomlin	1,447 0 0
Chafin	1,440 0 0!

For the construction of roads and sewers on the Cadogan and Hans Place estates. Mr. W. Forbes F. Ashdown, engineer:—

Keeble	£1,813 0 0
Nowell & Robson	1,295 0 0
Mowlem & Co.	1,265 0 0
Killingback	1,230 0 0
Ford (accepted)	995 0 0

For the erection of a detached villa on the St. Margaret's Building Estate, Rochester, Kent, for Mr. W. H. Judd:—

Naylar (accepted)	£1,150 0 0

For alterations to the Duke of York, Ormond-yard, St. James's, for Mr. Dilling:—

Anley	£310 0 0
Eaton	265 0 0
Marr (accepted)	242 0 0

For alterations and additions to No. 9, Little White Lion-street, Seven Dials, for Messrs. Combe & Co. Mr. H. R. Cotton, architect:—

Toms (accepted)	£420 0 0

For the erection of church-room for the parish of St. Leonard, Heston, Middlesex. Mr. Edward Monson, jun., architect:—

Gammage	£601 16 0
Hiscock	590 0 0
Nye	586 0 0
Hunt	550 0 0
Harris	547 12 0
Brunsden (accepted)	534 0 0

For additions to the West Ham Union, Leytonstone-road. Mr. L. Angell, architect:—

Webster	£14,499	0	0
Perry & Co.	14,359	0	0
Crisp & Tomlin	13,867	0	0
Jones	13,850	0	0
Wall	13,507	0	0
Prout	13,501	0	0
Grimwood & Sons	13,463	0	0
Morter	13,430	0	0
Crabb	13,329	0	0
Atherton & Latta	12,934	0	0
Cox	12,830	0	0
Nightingale	12,733	0	0
Hatton	11,860	0	0
Gregar	11,640	0	0

For alterations to Infirm Women's Wards and paving a yard at St. Marylebone Workhouse, for the Guardians of the Poor of St. Marylebone. Messrs. H. Saxon Snell & Son, architects:—

Purden	£685	0	0!
Garrod & Smith	646	0	0
French	644	18	0
Howard	590	0	0
Morris	575	0	0
Williams & Son	520	0	0
Bamford	475	0	0
Hall, Bros. (accepted)	377	0	0!

For the erection of the third asylum for the county of Surrey. Mr. C. H. Howell, architect. Quantities by Mr. John Scott and Messrs. Widnell & Trollope:—

Holland & Hannen	£215,430	0	0
Trollope & Sons	213,675	0	0
Peto, Bros.	208,191	0	0
Higgs & Hill	206,789	0	0
Parnell & Son	206,000	0	0
Browne & Robinson	203,697	0	0
Brass	202,851	0	0
Kirk & Parry	200,774	0	0
Chappell	198,640	0	0

For stabling and other works, Fawkham Manor, Kent, for Mr. H. B. Hohler. Mr. F. Boreham, architect:—

Horlock (accepted)	£641	0	0

For painting, graining, and papering seven houses in Geraldine-road, East-hill, Wandsworth, for Messrs. R. & G. Neal. Mr. P. Murfin, surveyor:—

Horton (accepted)	£420	0	0

For the erection of new farm-buildings, St. Mary's, Hoo, Kent:—

Naylar (accepted)	£893	0	0

For the erection of an additional school-building, with outbuildings and fittings, &c., complete, in rear of No. 71, Stepney-green. Messrs. Davis & Emmanuel, architects. Quantities supplied by Mr. H. P. Foster:—

Brass	£1,968	0	0
Wall	1,950	0	0
Williams & Son	1,930	0	0
Cox	1,917	0	0
Wood	1,876	0	0
Rider & Son	1,838	0	0
Grover (accepted)	1,833	0	0

For repairs and alterations to Aged Pilgrims' Friend Society's Asylum, Camberwell. Mr. Robert P. Wheltock, architect:—

Hawkes, accepted.

For the erection of offices in Lime-street, for Mr. Lang. Mr. William Wimble, architect. Quantities supplied:—

Dove, Bros.	£6,475	0	0
Scrivener & Co.	6,242	0	0
Morter	6,192	0	0
Laurence	6,110	0	0
Colls & Son	6,059	0	0
Brass	5,963	0	0
M'Lachlan & Sons (accepted)	5,931	0	0

For additions, alterations, and repairs at Messrs. Adey & White's brewery, St. Alban's. Messrs. Field & Burnet, architects:—

Wilson & Exton	£1,122	0	0
Burgoyne & Son	1,022	0	0
Miskin	994	0	0

For erecting parsonage-house at Christchurch, Hants, for the Congregational Building Committee. Messrs. Kemp-Welch & Pinder, architects. Quantities supplied by the architects:—

Davis & Son	£1,030	0	0
M'William	1,025	0	0
Ellison, Bros.	993	0	0
Hoare, Bros., & Walden	975	0	0
Jenkins & Son	930	0	0
Walden (accepted)	856	0	0

For the erection of baths and washhouses at Rotherhithe, for the Vestry of the parish. Messrs. George Elkington & Son, architects. Quantities by Messrs. Franklin & Andrews:—

Dickerson	£23,700	0	0
Croaker	22,885	0	0
Tarrant & Sons	22,733	0	0
Batley	22,700	0	0
Braid & Co.	22,500	0	0
Fish & Co.	22,370	0	0
Linfield	22,240	0	0
Elkington	21,749	0	0
Perry & Co.	21,479	0	0
Nightingale	20,947	0	0
Wall	20,350	0	0
Greenwood	20,300	0	0
Crisp & Tomlin	19,912	0	0
Rider & Son	19,848	0	0
Stevenson	19,840	0	0
Shepphard	19,735	0	0

For alterations and additions at 4, York-street, St. James's, for Mr. Beston. Mr. D. Haylock, architect:—

Uff (accepted)	£745	0	0

For the Hamlet Valley sewer extension for the South-end Local Board. Mr. B. E. Harrington, surveyor:—

Firmin, Hill, & Co.	£1,342	0	0
Storey & Co.	1,242	15	7
Marshall	1,056	0	0
Strachan & Co. (accepted)	800	0	0

For the erection of premises in connexion with Balham Congregational Church. Messrs. Searle, Son, & Hayes, architects. Quantities by Mr. F. Downing:—

Belham & Co.	£2,325	0	0
Macey	2,096	0	0
Higgs & Hill	2,084	0	0
Adamson & Co.	2,081	0	0
Dove, Bros.	1,995	0	0
Wilson & Exton	1,977	0	0
Chandler	1,799	0	0

For rebuilding farm-buildings at Westerland Farm-Maridon, near Paignton, Devon. Messrs. Tarring & Wilkinson, architects:—

Wills, Bros.	£828	0	0
Vanstone & Mumford	797	10	0
Goss	766	15	4
Evans	759	0	0
Vanstone	729	0	0
Davis, Bros. (accepted)	666	0	0

For additions to warehouse, Southwark Bridge-road, for Mr. F. H. Grey. Mr. E. H. Burnell, architect. Quantities supplied:—

Stoner	£2,811	0	0!
Down	1,680	0	0
Croaker	1,589	0	0
Abraham	1,559	0	0
Palmer	1,549	0	0
Larke	1,548	0	0
Sargeant	1,533	0	0
Cardus	1,400	0	0
Outhwaite & Son	1,340	0	0!

Municipal Buildings, Hastings.—For "Bradd & Co." read "Braid & Co."

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